

Published by
E. HARRISON CAWKER. { Vol. 17, No. 5 }

MILWAUKEE, SEPTEMBER, 1884.

{Terms: \$1.00 a Year in Advance.
Single Copies, 10 Cents.

EVERY PIECE—FOOT—THREAD—YARD—INCH—MESH—WARRANTED

Purchase Either and Only
NOYE BOLTING CLOTH DUFOR

The Noye Cloth is made expressly for our own use by C. Schindler-Escher, Zurich, Switzerland, and is the only cloth in the world which can be recognized by the **COLORED THREADS IN THE SELVEDGE**, thereby enabling us to guarantee the different qualities, and the purchaser to know what he is getting every time. This exclusive privilege is insured to us by letters trade mark.

One Green Thread Indicates Standard Quality.

One Red Thread Indicates Extra Quality.

Two Red Threads Indicate Double Extra Quality.

All these qualities are made BEFORE the piece is woven and not by mechanical means afterwards.

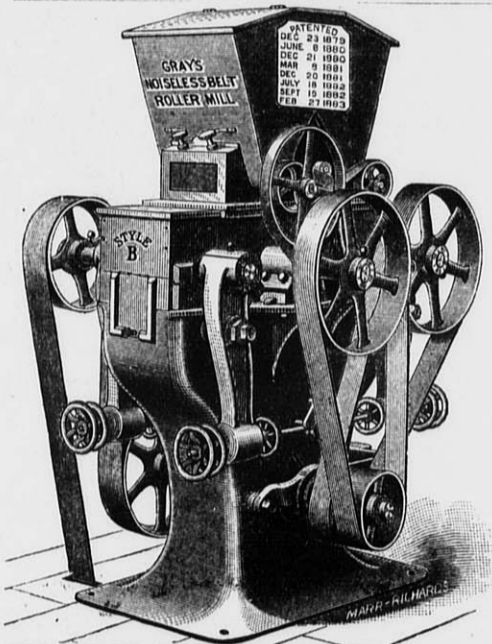
Numberless attempts have been made to palm off inferior grades of cloth for *Dufour*, but up to the present time all such efforts have signally failed. We have handled this silk since its first introduction into this country, and in purchasing of us millers can rely upon getting

THE GENUINE DUFOR.

It is particularly noted for its superior qualities in the way of **STRENGTH, ELASTICITY, UNIFORMITY IN MESH, REGULARITY OF THREADS**, and freedom in bolting under all temperatures

CLOTHS MADE UP IN A SUPERIOR MANNER BY PATENTED MACHINERY.

THE JOHN T. NOYE MANUFACTURING CO., BUFFALO, N. Y., U. S. A.



GRAY'S NOISELESS BELT ROLLER MILLS.

STYLE B

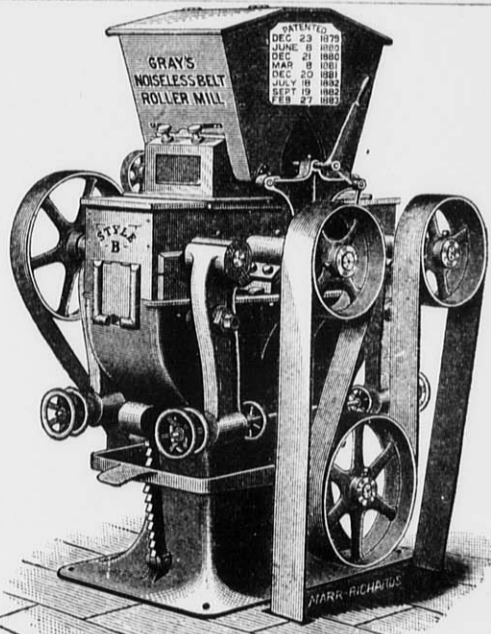
FOR SMALL MILLS.

Send for Circulars and Prices.

E. P. ALLIS & CO.,

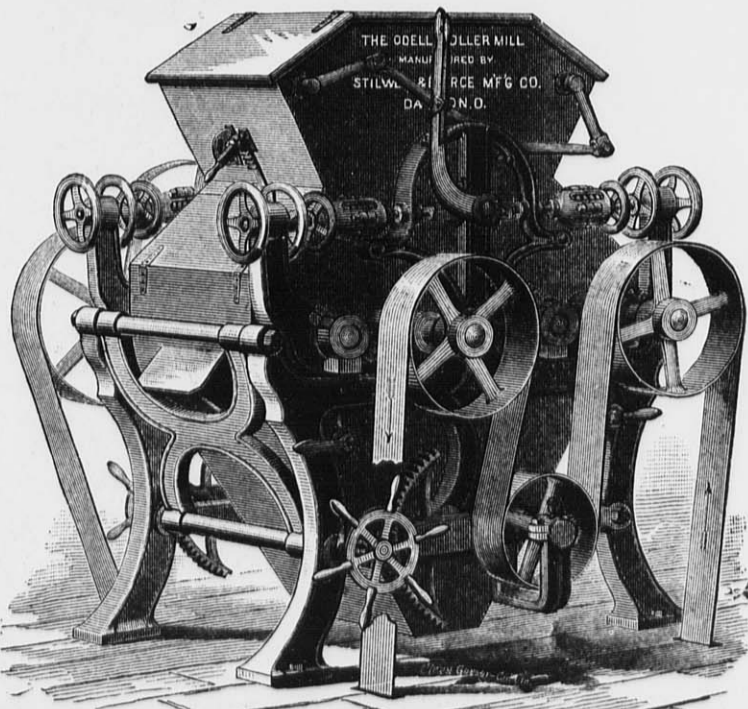
Sole Manufacturers.

Reliance Works, Milwaukee, Wis.



ODELL'S ROLLER MILL SYSTEM.

Is now in successful operation in a large number of mills, both large and small, on hard and soft wheat, and is meeting with Unparalleled Success. All the mills now running on this system are doing very fine and close work, and we are in receipt of the most flattering letters from millers. References and letters of introduction to parties using the Odell Rolls and System, will be furnished on application to all who desire to investigate.



ODELL'S ROLLER MILL,

Invented and Patented by **U. H. ODELL**, the builder of several of the largest and best Gradual Reduction Flour Mills in the country.

AN ESTABLISHED SUCCESS

WE INVITE PARTICULAR ATTENTION TO THE FOLLOWING

POINTS OF SUPERIORITY

possessed by the Odell Roller Mill over all competitors, all of which are broadly covered by patents, and cannot be used on any other machine.

1. It is driven entirely with belts, which are so arranged as to be equivalent to giving each of the four rolls a separate driving-belt from the power shaft, thus obtaining a **positive differential motion** which cannot be had with short belts.
2. It is the only Roller Mill in market which **can instantly be stopped without throwing off the driving-belt**, or that has adequate tightener devices for taking up the stretch of the driving-belts.
3. It is the only Roller Mill in which **one movement of a hand-lever spreads the rolls apart and shuts off the feed at the same time**. The reverse movement of this lever brings the rolls back again exactly into working position and **at the same time turns on the feed**.
4. It is the only Roller Mill in which the movable roll-bearings may be adjusted to and from the stationary roll-bearings **without disturbing the tension-spring**.
5. Our Corrugation is a decided advance over all others. It produces a more even granulation, **more middlings of uniform shape and size, and cleans the bran better**.

We use none but the BEST ANSONIA ROLLS.

OUR CORRUGATION DIFFERS FROM ALL OTHERS, AND PRODUCES

LESS BREAK FLOUR and MIDDINGS of BETTER QUALITY.

Mill owners adopting our Roller Mills will have the benefit of Mr. Odell's advice, and long experience in arranging mills. Can furnish machines on Short Notice. For further information, apply in person or by letter to the sole manufacturers,

STILWELL & BIERCE MANUFACTURING CO.,

Agents for Du Four's Bolting Cloth.

[Please mention this paper when you write to us.]

DAYTON, OHIO, U. S. A.

To SETTLE A DISPUTED QUESTION!

Owing to the fact that we are the only manufacturers of Roller Mills in this country who are authorized to build and sell machines containing Porcelain Rolls under the Wegmann patents, our business competitors have from motives of policy, been forced to oppose the introduction and use of the justly

CELEBRATED

Wegmann Porcelain Roller

MILLS!

of which we are the exclusive licensees and sole manufacturers in America. As many millers have not yet given the Porcelain Rolls a practical trial, but have formed their opinions of their merits wholly from hearsay evidence, we desire to give millers generally an ample opportunity to determine for themselves, from a thorough trial in their own mills, the merits or demerits of Porcelain Rolls, and, therefore, make the following

OFFER!

We will sell any miller who is now grinding purified middlings on millstones, smooth iron rolls or scratched rolls, one of our

Gray's Noiseless Belt Drive Porcelain Roller Mills,

of suitable capacity, at our regular prices, and if the result of an impartial and careful trial does not establish the fact that the Porcelain Rolls are superior to either millstones, smooth iron or scratch rolls, for the purpose for which we recommend them, we will replace the Porcelain Rolls with either smooth or scratched iron rolls, allowing the difference in price; or the entire machine may be returned to us at our expense. Where millers desire, we will send a competent miller to instruct them in the proper handling of the Porcelain Rolls without expense to them. Our offer is made with the purpose of placing it in the power of every miller to satisfy himself that he is using the best machine for flouring purified middlings. Millers desiring to avail themselves of this offer should send sample of stock they wish to reduce, stating capacity required, to

EDW. P. ALLIS & CO.,

Reliance Works, Milwaukee, Wis.

[Please mention the UNITED STATES MILLER when you write to us.]

The United States MILLER

Published by
E. HARRISON CAWKER. { VOL. 17, NO. 5. }

MILWAUKEE, SEPTEMBER, 1884.

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THE OLD GRIST MILL.

BY R. H. STODDARD.

The grist mill stands beside the stream,
With bending roof and leaning wall,
So old that when the winds are wild
The miller trembles lest it fall;
But moss and ivy, never sere,
Bedeck it o'er from year to year.

The dam is steep, and welded green;
The gates are raised, the waters pour
And tread the old wheel's slippery steps,
The lowest rounds for evermore;
Methinks they have a sound of ire;
Because they cannot climb it higher.

From morn' till night, in autumn time,
When heavy harvests load the plains,
Up drive the farmers to the mill,
And back anon with loaded wains;
They bring a heap of golden grain,
And take it home in meal again.

The mill inside is dim and dark,
But peeping in the open door,
You see the miller flitting round,
And dusty bags upon the floor;
And by the shaft and down the spout,
The yellow meal comes pouring out.

And all day long the winnowed chaff,
Floats round it on the sultry breeze,
And shineth like a settling swarm
Of golden-winged and belted bees;
Or sparks around a blacksmith's door,
When bellows blow and forges roar.

I love my pleasant, quaint old mill!
It 'minds me of my early prime;
'Tis changed since then, but not so much
As I am by decay and time;
Its wrecks are mossed from year to year,
But mine all dark and bare appear.

I stand beside the stream of life;
The mighty current sweeps along,
Lifting the floodgates of my heart,
And turns the magic wheel of song,
And grinds the ripening harvest brought
From out the golden field of thought.

JONATHAN MILLS.

It is always pleasant to know something of the personal history of those men whose names have become prominent in any of the great avenues of life, whether mechanical, professional, commercial or political. There is, perhaps, no name among inventors of milling machinery better known to-day than that of the subject of our sketch. His most violent critics are compelled to admit that his mechanical ability is of the highest order—that he is not only able to invent and design, but to put in practice that which he has invented or designed. We believe it is generally admitted that Mr. Mills has done more towards producing handsomely designed and well-constructed machinery—thorough improvements on all former designs—than any millwright in the world. Since his first invention of his Middlings Mill, which was a model of symmetry and fine workmanship, other manufacturers have taken the hint, and the consequence is that there have been improvements all around, and to-day American milling machinery, without doubt, is the best designed of any in the world.

Jonathan Mills was born at Bellbrook, Green Co., Ohio, in 1835, making him now 49 years of age. His father was a builder of aqueducts and bridges; some of his build of covered bridges are still standing. After his father's death in 1844, Jonathan went to reside with his grandfather in Green Co., where he remained until his mother married a farmer. He then went to live with his mother and stepfather, and helped to clear up a fine farm in Miami County, Ohio, and at the age of 15 built for an uncle living near by, a large wagon house with flaring corn-cribs on each side of the wagon way. This was considered a great mechanical feat for so young a boy to accomplish, as it was built without a single mistake in its framings. When that was finished he went to learn bridge building and heavy framing, under a celebrated framer by the name of Stratten. While with him he made the heavy walnut four-panel outside doors for a large brick house that his stepfather was building. These doors are perfect to-day, and the best doors of the present day are no improvement in design or workmanship over those he made 34 years ago.

The first flouring mill he had anything to do with, was a short way below Piqua, Ohio, on the Miami River, and he helped to make all the wooden gearing—the same kind of old-fashioned, thumb-and-finger gearing that was used in Oliver Evans' time. After that, he framed a barn near his stepfather's, and then went to Michigan and framed and built a saw mill, and also framed one of the largest barns in the State: it was double-bank barn, into which a loaded four-horse team could be driven in at one door on the bank side, and could turn and drive out at the same side through another door. With the large force of mechanics at his service, the above jobs occupied only one winter and summer. He went into the woods and hewed out all the timber for both jobs, besides a large amount of heavy timber for a bridge across the St. Joe River at Niles, Mich. After the above work was completed, he helped to put in machinery in a flour mill near Niles, Mich.

His reputation as a framer began to become known far and wide, and he was called to go on to the Pittsburgh & Fort Wayne Railroad, then building through Indiana, to take charge of the building of Hailstorm Bridge across Hailstorm Creek, near Plymouth. It was a very high trestle bridge, and built on the old style of heavy trestles. This bridge was 59 feet high. From that time until the present he has been devoting his time to machinery of various kinds, and has built flour mills, saw mills and paper mills.

He was at one time in company with the Des Moines Iron Works and for the short time there did a great deal of mill work, and invented and built a brick-machine that would make 60 bricks a minute; sold that out, and went to Michigan to help build a saw mill.

Previous to going to Iowa, he went as foreman of millwright shop-work for Jno. T. Noye, of Buffalo. Not liking that kind of sameness of work, he went to Indiana to help build a large flour mill. His desire to gain as wide a knowledge as possible of all kinds of machinery, made him anxious to change from one section to another. He had gained a reputation of having rare mechanical abilities for all kinds of heavy work. E. P. Allis & Co., of Milwaukee, Wis., had taken the agency to introduce the Leffel Wheel in Wisconsin and Minnesota, which required a mechanic that was up in all kinds of machinery, and one who could direct and make plans for putting in the Leffel Wheel into all kinds of mills and factories. Mr. Mills was selected as the man to fill the place. He remained in that capacity with Mr. Allis for nearly two years, and, as they were not then reaching out and taking in as wide a range of territory as he desired, he got uneasy and left Allis & Co. to take a similar position, which would give him a wider range of territory, with Stout, Mills & Temple, of Dayton, Ohio. He remained with them about two years, when the Jas. Leffel Water-wheel Co., of Springfield, Ohio, induced him to come with them in the same capacity. As he had been placing the Leffel Wheel with E. P. Allis & Co., his ability was highly appreciated by the Leffel Co., who well knew the kind of metal he was composed of.

After he had been with the Leffel Co., for about six years, E. P. Allis & Co. became desirous of extending their trade throughout the whole country, in place of the limited territory of a few western States, and again sought Mr. Mills' services. He accepted the position, and at once proceeded to make business lively in that concern. His improvements of patterns and designs of milling-irons in all the shops he has been connected with, were at the time improvements of great benefit to the shops, as well as to the miller, and have been widely copied by other concerns all over the country.

Since 1877 Mr. Mills has been indefatigable in his efforts to improve the flour-milling interests in this country, and his ability as a fine designer, and his sharp criticism of poorly constructed mill machinery, have been the means of bringing about better designs and better construction. All of his own inven-

tions are marvels of mechanical design and compact construction.

He is entitled to the proud distinction of being the first and only inventor who has invented an entirely new and original system for the reduction of wheat.

Mr. Mills is now with the Cummer Engine Works of Cleveland, O. They are manufacturing and placing on the market some of the latest and most valuable of his inventions. Thousands of his friends will be glad to learn that he is on the high road to prosperity, such as self-made men deserve.

FREE TRADE AND PROTECTION.

What is free trade? Commerce unobstructed by tariffs. It is a theory found in actual practice only in Utopia. Great Britain disseminates it, and glorifies it as a panacea for all ills, and collects one hundred million dollars per annum in taxes on imports. She wanted cheaper wheat, on which to feed her labor at low wages, and so enacted the corn laws. Her silk industry was not quite sufficiently advanced to compete with France, and so a protective tariff was retained till 1869. It was even then too early, and the industry has languished since. The gold plate industry is still protected, and recently the humble request of British India for its remission was firmly refused, even after requiring the Indian Government to remit its export duty on wheat. That is the sort of free trade that is practiced by Great Britain.

She discards duties on goods that cannot elsewhere be made cheaper, and holds on to protection where it is essential to her welfare—encouraging ship building, and granting subsidies to certain steamship lines throughout the world.

What is protection? It is a duty on imports which builds up national industries; compels the foreigner who shares the profits of our markets to bear some part of our burden of taxation; reduces by competition the prices of our manufactured goods, and increases by enlarged demand the values of farm products.

In this country the classes favoring free trade are the importers, the dealers in foreign goods, the British born citizens educated in that theory, and incapable of change of views with change of location and circumstances, and men with fixed salaries who want low wages and low prices of goods, without reference to the general good or their own best interests in the future.

Those who want protection are the industrial classes, manufacturers, mechanics, miners, and farmers, who constitute more than two-thirds of the people. There are some in these classes, however, short sighted and unintelligent, who have been misled by demagogues and fail to see their interest in protection. To such we recommend a careful reading of THE ISSUE.

Really merchants and all, indeed, are ultimately benefited by a policy which benefits the industry of the country.

While the policy of protection obtains, in some form, in every civilized country, there are, theoretically, diverse views held by individuals in each nationality. "Free trade is the child of hope and the mother of good will," says George von Bunsen. The protectionist adds: "Her other parent is selfishness, and the eldest of her progeny a thug trained to the strangling of young industries." It is observed that only those industrially advanced nations which fear no competition in prices favor it, while those in which labor is scarce and skill undeveloped oppose and resist it. It is also noticed that nations change their policies as their conditions are reversed. It happens, when the need of raw materials, whether for manufacture or for food, is more potent than the fear of competition, that the bars of the customs are let down; and also, when a great continent, a fertile waste, is suffering for an opportunity to produce all material for manufacture, the bars are somewhat persistently kept up. It is a phase of human nature, very persistently exhibited, that is seen in all these cases. These

differences of theory and practice will continue, in the future as in the past, enforced by differing circumstances, environing national industries, and dictated by the hard practical sense that recognizes the fact that "circumstances alter cases."

WHEAT CROP OF 1884.

S. W. Tallmadge, of the Milwaukee Chamber of Commerce, presents the following figures as his final estimate of the wheat crop of the United States for 1884. The figures are based on official reports made within the past few days by the several state agricultural departments and statistical agents of the different states and territories. The report shows the total production of winter wheat to be 380,000,000 bushels and the total of spring wheat 150,000,000 bushels; total of both winter and spring 530,000,000 bushels. This makes the total yield of the country fully 25,000,000 bushels more than was ever before produced, 130,000,000 more than last year's crop and about 80,000,000 more than the average crop for the past five years. The departments all agree in reporting the quality superior, and where it has been threshed they say the yield has more than met their calculations. This applies more especially to the spring wheat sections, Iowa, Dakota, Nebraska, Minnesota and Wisconsin. The quality of spring wheat was never better. The spring wheat harvest has been late, but the weather has been most favorable and the grain is being cared for in excellent condition.

SPRING WHEAT.

	Busels.
Minnesota	41,000,000
Iowa	32,000,000
Nebraska	31,000,000
Dakota	25,000,000
Wisconsin	21,000,000
Total spring wheat	150,000,000

WINTER WHEAT.

	Busels.
Kansas	48,000,000
California	45,000,000
Ohio	35,200,000
Indiana	35,000,000
Missouri	33,000,000
Illinois	33,000,000
Michigan	22,500,000
Pennsylvania	22,500,000
Oregon	15,000,000
New York	13,000,000
Kentucky	12,000,000
Maryland	9,000,000
Tennessee	9,000,000
Virginia	7,000,000
North Carolina	5,000,000
Texas	5,000,000
West Virginia	4,000,000
Georgia	4,000,000
Washington	4,000,000
Colorado	3,000,000
South Carolina	2,000,000
New Jersey	2,000,000
Utah	2,000,000
Arkansas	1,600,000
Alabama	1,500,000
Delaware	1,000,000
New Mexico	1,000,000
Montana	1,000,000
Idaho	1,000,000
Maine	500,000
Arizona	500,000
Mississippi	500,000
Vermont	500,000
New Hampshire	200,000
Nevada	200,000
Wyoming	200,000
Connecticut	48,000
Massachusetts	25,000
Louisiana	25,000
Florida	1,000
Rhode Island	1,000

Total winter

Total winter and spring

THE FIRST WHEAT.—The first wheat raised in the New World was sown by the Spaniards on the Island of Isabella, in January, 1494, and on March 30 the ears were gathered. The foundation of the wheat harvest of Mexico is said to have been three or four grains carefully cultivated in 1530, and preserved by a slave of Cortez. The first crop of Quito was raised by a Franciscan monk in front of the convent. Garcilazo de la Vega affirms that in Peru, up to 1658, wheaten bread had not been sold in Cusco.

UNITED STATES MILLER.

PUBLISHED MONTHLY.

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MILWAUKEE, SEPTEMBER, 1884.

ANNOUNCEMENT:

WM. DUNHAM, Editor of "The Miller," 69 Mark Lane, and HENRY F. GILLIG & Co., 449 Strand, London, England, are authorized to receive subscriptions for the UNITED STATES MILLER.

We send out monthly a large number of sample copies of the UNITED STATES MILLER to millers who are not subscribers. We wish them to consider the receipt of a sample copy as a cordial invitation to them to become regular subscribers. Send us One Dollar in money or stamps, and we will send THE UNITED STATES MILLER to you for one year.

The United States Consuls in various parts of the world who receive this paper, will please oblige the publishers and manufacturers advertising therein, by placing it in their offices, where it can be seen by those parties seeking such information as it may contain. We shall be highly gratified to receive communications for publication from Consuls or Consular Agents everywhere, and we believe that such letters will be read with interest, and will be highly appreciated.

CAWKER'S AMERICAN FLOUR MILL AND MILL FURNISHERS' DIRECTORY for 1884, published by E. Harrison Cawker, of Milwaukee, Wis., and sold for (\$10.00) ten dollars per copy, is now ready for delivery. It shows the result of an immense amount of labor, careful inquiry and studious attention to details. It is without doubt the most accurate trade directory ever published, and will be of untold value to those desiring to reach the milling industry of America.

We glean from this neat volume of 200 pages containing no advertisements, that there are in the United States of America and our neighboring Dominion of Canada 25,050 flouring mills, taking them as they go great and small. The work indicates in about 10,000 instances the kind or kinds of power used by the mills, and the capacity in barrels of flour per day. It further indicates cornmeal, buckwheat, rye-flour and rice mills. It shows that the number of mills in the various states and territories of the United States are as follows: Alabama 453; Arizona 17; Arkansas 343; California 222; Colorado 54; Connecticut 288; Dakota 81; Delaware 98; District of Columbia 5; Florida 66; Georgia 631; Idaho 21; Illinois 1123; Indiana 1089; Indian Territory 14; Iowa 700; Kansas 489; Kentucky 713; Louisiana 61; Maine 280; Maryland 353; Massachusetts 340; Michigan 846; Minnesota 487; Mississippi 386; Missouri 1025; Montana 21; Nebraska 250; Nevada 13; New Hampshire 182; New Jersey 442; New Mexico 32; New York 1902; North Carolina 848; Ohio 1443; Oregon 145; Pennsylvania 3142; Rhode Island 51; South Carolina 274; Tennessee 801; Texas 703; Utah 110; Vermont 247; Virginia 781; Washington Territory 61; West Virginia 447; Wisconsin 777; Wyoming 2.

In the Dominion of Canada we find the record as follows: British Columbia 17; Manitoba 54; New Brunswick 198; Nova Scotia 102; Ontario 1160; Prince Edward's Island 39; Quebec 531. Total 25,050.

Taking the work throughout, and it is highly interesting to all concerned in the trade, and we take pleasure in recommending it.

A copy of Ropp's Calculator and the UNITED STATES MILLER will be sent to any address for one year for \$1.00.

The New American Dictionary and the UNITED STATES MILLER sent postpaid to any address in America for \$1.60.

THE Illinois State Fair for 1884 will be held in Chicago, Sept. 8-13. The manufacturer, artisan, breeder and producer should be fully represented. The premium list is both large and liberal. Full information may be had by addressing Hon. S. D. Fisher, Springfield, Ill.

H. Voss, the well-known Milwaukee book-binder, has recently improved the appearance of the UNITED STATES MILLER by binding it with wire. He has the best machinery for this purpose in the State. He is an enterprising gentleman, fond of his trade and believes in having the best machinery at his service.

An old saying is that "if you don't blow your own horn, nobody else will blow it for you." It appears to us that several of our milling contemporaries have taken the text mentioned for good law and gospel. Perhaps it may pay them, but just for a change, in the language of the immortal Artemus Ward, "Let up a little while."

WE have received the 1884 catalogue of Messrs. A. A. De Loach & Bro., water-wheel builders and mill furnishers, having their headquarters at Atlanta, Ga. They report a lively trade throughout the Southern States. The long list of names in the catalogue showing to whom they have sold wheels, mostly during the past year, indicates that their wheel is meeting with great favor.

THE business week in Wall street was opened by the suspension of a bank whose

cashier had committed "irregularities" to the extent of half a million dollars. The same issue of the journals which chronicled the failure of this bank notified the public that Eno, the defaulting ex-president of the Second National Bank, was negotiating for the purchase of a fine residence in the most fashionable part of Quebec. These are facts that should give rise to very serious reflections. When a breaker of trust can secure an asylum from justice across the border of a neighboring state, and can with his ill-gotten means purchase immunity, ease and, mayhap, some degree of consideration there, it is no wonder that the temptation to embezzlement and breach of trust should number so many "victims."—Bradstreet's, Aug. 16.

"The Great Empire City, or High and Low Life in New York," and the UNITED STATES MILLER for one year will be sent postpaid to any address on receipt of \$1.00

THE American Exhibition in London, England, of the arts, manufactures, products and resources of the United States will open on May 1, 1886. More than 500 American manufacturers have already applied for space. Forms of application for space may be had on application to General C. B. Norton, Secretary, 7, Poultry, London, E. C.; or to the American Legal Counsel of the American Exhibition (1886), Messrs. Blatchford, Seward, Griswold & Da Costa, 29 Nassau street, New York City.

JNO. P. BRINING, Esq., the able representative of the Geo. T. Smith Middlings Purifier Co., of Jackson, Mich., has been spending some days in Milwaukee during the past month. Mr. Brining is a practical miller of long experience and he is not only able to sell SMITH purifiers and centrifugals to millers, but can often give a hint (if they are willing to learn anything new) that will much improve their milling. Mr. Brining is heartily welcomed by all Wisconsin and Minnesota millers who know him. He reports business good.

THE British Government has guaranteed upwards of £30,000,000 for the purpose of building and equipping about 4,000 miles of new railway in India, ostensibly for the purpose of making India the granary for Great Britain. This immense outlay will probably stimulate the Indian grain business, but really it looks to us on this side of the water as if it was a great jobbing scheme for the primary benefit of English railroad builders. As we have stated before, we do not believe it possible under the most favorable circumstances for Indian wheat to compete either in quality or price with that raised on this continent. Time will tell.

THE grain business always seemed to us to be a grumble at one end and a growl at the other. The average farmer is continually growling, and anticipating bad luck from the time his crops sowed until it is sold, and even after that he is generally of the opinion that he did not get enough for his wheat. After the miller gets it and grinds it into flour, he too grumbles; he thinks he paid too much for his wheat and cannot get enough for his flour, although he is probably making a clean profit of from thirty cents to a dollar a barrel. This is not always the case, but we have heard so much grumbling and growling by farmers and millers that we knew were doing reasonably well, that we deem it worth while to call attention to it. Take your fortune as it comes, gentlemen. Don't grumble and growl.

WE regret to learn of a very painful accident having just happened to Mr. J. M. Case, of the Case Manufacturing Co., by which he loses one if not two fingers of the left hand. It seems The Case Co. has recently been constructing an experimental mill in Columbus with the end in view of developing some new ideas of Mr. Case's in roller milling. The mill had just been completed and was just starting up when Mr. C.'s hand was drawn in between two corrugated rolls, which literally ground one side of his hand into fragments. Amputation of the first finger only, at the hand, has so far been deemed necessary, but it is hoped the rest of the hand may be saved. The accident is not only painful and dangerous, but occurred, as accidents always do, at the most unfortunate moment, as Mr. C. was desirous of conducting the earlier experiments himself upon what he thinks will be a new departure in roller milling, and which he now must leave to others for the time being.

THE British and Irish millers' late annual meeting has been declared to have been a complete success. A number of long and interesting papers on milling subjects were read and listened to with profound attention and soberly discussed. A cotemporary suggests that a similar series of papers should be prepared by qualified parties to be read at the December meeting of the Millers' Na-

tional Association to be held in Chicago, December next. We believe it would be well to try the experiment, although the probabilities are that it would be a failure. Americans are a nervous and practical people and will not, if they can help it, sit down for any length of time to hear a technical paper read when they think that the whole thing will be published in the milling journals, which they can read at home at their leisure. But, by all means, let capable gentlemen prepare their essays on pertinent subjects and if the millers object to hearing them read let them be referred to the printer. This will give more time to visiting millers to discuss the harvest and the probable future prices of flour and grain, and for "seeing" the fair city of Chicago. There are many matters of interest to millers which will provoke the deepest attention and will warrant the largest gathering yet held, but, as we said before, by all means let these technical papers be prepared.

That valuable book "Moore's Universal Assistant and Complete Mechanic" and a copy of the UNITED STATES MILLER for one year will be sent to any address in America for \$2.75. Order now.

SPECIAL INDUCEMENTS TO SUBSCRIBERS.

If you are not already a subscriber to the UNITED STATES MILLER, now is your time to subscribe. We call your especial attention to our announcement on page 72. It may be summed up as follows:

We will send the UNITED STATES MILLER post-paid to any address in the United States or Canada for one year and a copy of Ropp's Calculator in plain binding for \$1.00, or a No. 3 Calculator and the paper for \$1.50; or a copy of Ogilvie's Popular Reading No. 3 and the paper one year for \$1.00; or the books entitled "The Great Empire City" or "Fifty Complete Stories" and the paper for one year for \$1.00; or the "New American Dictionary" and the paper for one year for \$1.60; or "Moore's Universal Assistant and Complete Mechanic" and the paper one year for \$2.75. Our readers should not fail to take advantage of these offers, which remain open until we announce to the contrary in our columns. All remittances must be made by postoffice money order or registered letter. Remittances made otherwise will be at your own risk.

MILWAUKEE IN HER GLORY.

The Harvest Moon shines forth on our fair Cream City with its accustomed brilliancy and the city is gayer and its streets crowded with thousands more of visitors than ever before. The hotels are filled to their utmost capacity and the city generally wears a holiday appearance. The theatres, gardens, museums, in short, all places of amusement, are in full blast, and from now to the last of October our citizens and visitors may look for a continuous round of pleasure. The Exposition opens September 13, and that will draw at least a fourth of the people in the State to our city. Our business men generally report trade, especially the retail trade, to be very gratifying indeed. The population of Milwaukee is now not far from 160,000, and it is increasing very rapidly. All visitors are struck with the remarkable beauty and cleanliness of our city and after leaving, yearn for the time and opportunity of coming here again. The transportation facilities by both rail and water are unsurpassed; taxes are moderate, our manufacturers are doing a safe and prosperous business and those intending to go into the manufacturing business will do well to visit Milwaukee and examine its advantages, before locating. Milwaukee is certainly as good a place for manufacturing as can be found and as a place for residence it is healthy and delightful.

A CORRESPONDENT at Marysville, Kas., says: "Here is located one of the largest and most extensive grist mills in Kansas, known as the Model Roller Mill, built, owned and operated by Capt. Perry Hutchinson. Commencing on a small scale, as all shrewd business men should do, he has made it pay from the start, until now its capacity has been increased to 1,400 bushels per day, or 300 barrels of flour daily. Besides supplying most of the home demand, not only in Kansas, Nebraska, Iowa and other states, a large amount of his manufacture goes direct to Europe. He disposes of all he manufactures, and the day I conversed with him he was ten days behind with orders. These mills are running to their fullest capacity with a day and night force, and he has at all times orders ahead for all he can manufacture. Last year most of the grain was shipped in; this year he expects enough raised in this section for his use. New wheat is arriving, the first batch testing 62 pounds to the bushel. There are better prospects for grain than during the past ten years. It is worth a person's time to visit the mill of Mr. Hutchinson. This gentleman is proudest when at his mill. Oc-

asionally he gets tired of this, and the people of Marshall County sent him to the state senate, which position he filled to his credit and to the satisfaction of his constituents. But in whatever position he has been called to, he has never forsaken the calling he chose many years ago, that of a miller, and this being his pride, he erected the mill which to-day stands a monument to the vim and enterprise of one of the shrewdest and most successful business men in the west. He is a liberal and generous man, whose mill, home, farm, official duties and business record are a handsome testimonial to Marysville, Marshall County and Kansas."

A BAG of American flour weighing one hundred weight and a quarter, and purchasable at Mark Lane for eight shillings, may well startle English millers out of their complacent agreement with that system of political economy for which the names of Bright and Cobden stand as a sufficient symbol. The first question that rises to the lips is, "Are the American millers doing it at a loss?" But to this a true answer is exceedingly difficult to obtain. Custom nowadays is sought after at no small outlay, and the enterprise of America is quite capable of accepting even serious losses in order to establish a business. It must, however, be added that there is very little reason to suspect any American miller's co-operation in swamping the English market with foreign flour, and if no regular organization can be discerned, then it is rather an extreme notion to suppose that a number of American shippers and producers go on sending us American flour under cost price. From such facts as these, the one quite certain and necessary conclusion to be drawn is that English millers need to avail themselves to the uttermost of all the latest appliances and machinery that science puts in their way, that capital and talent are necessary in modern milling as well as labor and patience, and that a man may as soon close his mill and throw the stones into the mill-pond as abstain from mixing with his brotherly millers, and learning from them and the milling press whatever there is new in the milling world.—Miller (London.)

THE following figures are worth remembering, as they will save a great deal of calculation and give approximately accurate results with a minimum of labor:

A cord of stone, three bushels of lime and a cubic yard of sand will lay one hundred cubic feet of wall.

Five courses of brick will lay one foot in height on a chimney. Nine bricks in a course will make a flue eight inches wide and twenty inches long; and eight bricks in a course will make a flue eight inches wide and sixteen inches long.

Eight bushels of good lime, sixteen bushels of sand and one bushel of hair will make enough mortar to plaster one hundred square yards.

One-fifth more siding and flooring is needed than the number of square feet of surface to be covered because of the lap in the siding and matching of the floor.

One thousand laths will cover seventy yards of surface, and eleven pounds of lath nails will nail them on.

One thousand shingles laid four inches to the weather will cover one hundred square feet of surface; five pounds of shingle nails will fasten them on.

NOW IS THE TIME.

"Now is the time to invest in tools and machinery," said a prominent manufacturer of tools and machines a short time ago. "We are making to lay up a stock," he said, "and are keeping our men on the prospects of future sales, instead of paying them from the profits of contracts already made." This company could afford to pay hands and store up a stock of finished work, as it had done before; but the manufacturer chose rather to sell at a low price than to pay insurance and the expense of the unavoidable deterioration of finished goods kept in stock. Lower prices and better terms—where terms are offered—can be obtained now than at any time within two or three years. Most men engaged in business requiring manufacturing machinery or machine tools can anticipate their ordinary needs for a twelvemonth hence, and so can make their preparations for the reflux tide of demand that is as certain to come as is the spring to succeed to winter. Every period of depression in business has been followed by a corresponding uprising, and there is no valid reason for believing that this present season of quietude is to sink into one of stagnation. At all events, a business, to live at all, must have the means, and there appear to be good reasons for advising the purchasing or the contracting for of machine tools and manufacturing machinery now, while in those branches of business there is a temporary lull.—Scientific American.

UNDER TWO FLAGS.

Jackson, Mich., and Stratford, Ont., Join Hands for a Day's Frolic.

ANNUAL EXCURSION OF THE EMPLOYEES OF THE GEO. T. SMITH MIDDINGS PURIFIER CO.

We give some particulars, gathered from the Jackson *Daily Citizen* of July 28th, touching this very creditable and pleasant picnic. Saturday, July 26, was a memorable day for the officers and employees of the GEO. T. SMITH MIDDINGS PURIFIER COMPANY, the occasion being their second annual excursion to Detroit and St. Clair. The day opened inauspiciously, with a drenching rain, which poured steadily until 6 o'clock, the hour fixed for departure, when the clouds broke away in the west and the rain ceased for a brief time. In spite of the rain, Mr. Geo. T. Smith was early at the Michigan Central depot, and ordered the train held half an hour, so that none of the party might be left behind. An immense throng surged about the depot platform with the uneasy motion peculiar to an excursion party awaiting the order to go. When the cars backed down to the depot, sixteen first-class coaches in all, they were greeted with cheers, and a grand rush was made for seats, of which there were plenty. About 1,000 tickets were issued and they were all used. A splendid silk banner with the name of the company, and a fine oil painting of the middlings purifier in the center on one side and a centrifugal reel on the other, was displayed by the employees, attracting much attention and admiration. The start from the Michigan Central depot was made at 6:30 without incident, all the happy excursionists being comfortably seated aboard and their well-filled baskets stowed safely away. A single powerful engine, No. 248, pulled the long train with a steady rate of speed. The first stop was made at Ann Arbor at 7:30, in the midst of a driving rain; the second pause was at Ypsilanti, to let the express pass, and it was still raining heavily. Only two more stops were made, at Wayne and at Grand Trunk Junction, as the law requires, and the long train swept proudly into the Detroit depot at 8:53, making the unequalled run from Jackson to Detroit, with four stops, in two hours and twenty-three minutes. It was still misty, and the few idlers about the depot were amazed to see such a crowd of people and to read the streamers on the engine announcing that this was the George T. Smith Middlings Purifier excursion from Jackson. It was amusing to hear the witty Detroiters offer to surrender the town, threaten to call out the state troops, and gravely inquire if anyone was left in Jackson to keep the stores open.

The steamer Garland lay at the Michigan Central wharf, in charge of Captain W. L. Horn, a river man who knows every buoy, bar and light from Detroit to Port Huron. The transfer from the cars to the steamer was effected quietly and speedily, but the clouds were so dark and the day so disagreeable that some of the party decided to remain in Detroit. The fine band, belonging to the Purifier Company, took their station on the upper deck of the Garland, and while the excursionists were getting settled on board, treated the Detroiters to some inspiring music. They were rewarded with liberal cheers as the boat steamed away at 9:30. It was a glorious ride up the Detroit river, across beautiful lake St. Clair, through the "flats," studded with emerald gems of islands, reminding one of Venice, with their numerous ornamental summer residences and gaily painted boat houses, and on past Marine City, past the Oakwood Mineral Springs hotel, past the famous Somerville school and the innumerable pretty views on either shore, until the steamer finally landed its merry cargo at "Shady Side," three miles beyond St. Clair on the American shore, at 2:45 P. M., making the run from Detroit in five hours and fifteen minutes. Mr. Smith had sent ahead a party of workmen, who fitted up the grounds, bringing cook-stoves, tents, and other camp paraphernalia for rustic enjoyment, which, added to the dancing pavilion, swings, tables, benches, etc., made the cool shady grounds as delightful a picnic spot as one could wish to see. It had rained very little at Shady Side, and the grounds were perfectly dry—the sun shone lazily through fleecy clouds, and all agreed in pronouncing it a perfect day. The Jackson party were greeted with loud cheers and national airs from the Stratford branch of this international excursion, who, accompanied by the St. Mary's (Ontario) band, altogether numbering nearly 500, had arrived about noon on the steamer Mary, from Port Huron. Many of the Stratford party were formerly residents of Jackson, and welcomed their former associates with every demonstration of delight.

Pictures of the crowd at the landing, together with views of the Geo. T. Smith Company's tent and various interesting spots on the ground were taken by L. F. Wheeler, of

Tecumseh, the artist who accompanied the Jackson party. The St. Mary's band discoursed delightful music at intervals, while the Jackson people spread the contents of their baskets on the green sward and scattered about in groups to enjoy their bountiful picnic dinner. Mr. Smith's tent was converted into a dining room, where the ladies served an elegant repast to the managers of the company and their invited guests from home and abroad. When the feasting was concluded and all parties feeling particularly happy, the Smith band took the stand and showed their Canada friends that they, too, had music in their horns.

The large audience was then called to order by W. K. Gibson, Esq., of Jackson, who informed the expectant listeners that they were such good-looking people he would much sooner look at than talk to them; but the occasion was one which called for expression in words of praise and thanks. Said he: "We are gathered here to-day under most pleasant social relations, upon the banks of this stream which bears the waters of the great northern lakes to the Atlantic ocean. Some of us come from the beautiful peninsula formed by these waters, and others from the province of a queen, who, from her girlhood, has worn a secure crown above as noble and true and loyal heart as ever beat in the breast of woman. This gathering has a significance far beyond its mere social aspect. A significance which touches in a very marked degree the true relations between capital and labor, and indicates one method by which such relations may be happily adjusted. Here on this spot capital and labor have met to shake hands and congratulate each other on the benefits each has been able to bestow. The principle embodied in the Smith Middlings Purifiers, and which was destined to make entire revolutions in the manufacture of flour was from the first very clear and well defined in the mind of Mr. Smith, but it was necessary that that idea should be embodied by intelligent workmen in a machine which should be able not only to work out the results sought, but be as perfect as possible in its operation and work. The company started out upon the idea that success required something more than the prestige of a fortunate invention and that perfect machines and honest work were necessary to continued growth and permanent success. The policy was inaugurated and has been continued ever since, of employing, not merely workmen of skill, but men who were honest, intelligent and sober, careful of their reputations as workmen and citizens. Under such a policy the business of the company has grown, until to-day there is no country where wheat is grown and flour made where the Smith Middlings Purifiers are not used; and wherever they have gone, whether into the mills of England, and of France, and the other countries of Europe, they have challenged the attention and won the praise of the best mechanics for their perfect construction and successful working. To this company its workmen are not mere machines, mere operatives, like the factory laborers of the Old World, but men who are reputable as citizens, who bring brain and intelligent skill to their work. By such men this company is looked upon as an associate with them in their work, furnishing their capital for its success, proud of the intelligence and skill of its workmen and ever ready to recognize their true place and position as men among men. So far as this company is concerned capital and labor have united, to solve for themselves the great problem which has so long disturbed the political economists. My friends, let it go out to the world, as it is true in fact, that employers and employees have one common aim, and that is that the success of this company, now and hereafter, shall stand upon honest, perfect work, done by intelligent, sober, skillful men. It is in appreciation of such efforts and aims on your part, that the officers of this company have given you this excursion, affording a day of rest and sound enjoyment, in which we all can take a part."

Mr. Gibson closed his address, amid great applause, by complimentary allusions to the audience before him, especially the ladies, and hinted that something more important was to follow. He declined to occupy further time, but introduced Col. Rodney Mason, attorney for the company, of Washington, D. C., who stepped forward, and, in a neat appropriate speech, presented to George T. Smith and George S. Bennett, officers of the company, the beautiful silk banner as a testimonial from the employees in the works at Jackson. Col. Mason is a handsome gentleman with a white moustache, white hair, a pleasing voice, and a short and stout figure. "I am requested," he said, "on the part of my fellow-employees, to present, in their behalf, to the president, directors and stockholders of the George T. Smith Middlings Purifier Company, this elegant banner as a testimonial of their regard and respect. It is not my purpose in presenting it to make

any extended speech. Those of you who know my relations to this company are aware that it would take two or three days for me to tell all that I know in regard to the development and merits of this invention; but that all belongs to another time and another place. At present it must content me briefly to make this presentation. We represent here to-day two nationalities: some have their pride in following their meteor flag of old England, others give their allegiance to the starry banner of the Union of states. Without sacrificing our devotion to either we can unite in loyalty to this banner to which we give a common fealty. To you, Mr. Smith, I now transfer this ensign which I feel assured you will value for its beauty, its fitness and especially because it is a testimonial of the kindly regard entertained for you by all those who are in your employment and who cordially unite in this presentation." Col. Mason's speech was cheered enthusiastically. When the applause had subsided sufficiently to render one's voice audible, Mr. Gibson took the stand and said that Mr. Smith was a very modest man while Mr. Gibson was not so modest, therefore Mr. Smith requested him to thank the employees of the company for the gift of this exquisite banner. He said: "In behalf of the officers of the George T. Smith Middlings Purifier Company, I accept this as a token of your kindly feeling towards them. It is true, as Col. Mason has said, that we come here from under the flags of different nations, but I see upon this banner a painting of one of the products of your mechanical skill and I recognize the great fact that the progress of every nation depends upon honest intelligent labor, and that this is a common ground upon which we may all stand. This banner will always signify to the officers of the company that you understand and recognize the true relations of labor and capital as they exist between you and them."

The exercises closed with music by both bands, and the floor was cleared for dancing, in which pastime the young people engaged merrily till 6 o'clock, when they adjourned to the deck of the Garland, and continued the amusement all the way to Detroit. It was very nearly 11 o'clock when the transfer from the steamer to the cars took place at the depot, where all was in readiness, and the train started at once for home, where it arrived without incident or accident at 1:44 standard time. Doubtless no one ever beheld a sleeper company of people, one or more completely tired out, but they reasoned that they "had all day to-morrow to sleep and rest," so it made no difference. Mr. Smith and the company spared no expense to secure the best car and boats for both the Jackson and the Stratford parties, and the skill with which it was managed shows they know how to get up an excursion as well as a purifier. In conversation Mr. Smith said he cared nothing about the expense—he did not know what it had cost, but he paid all the bills and hoped the boys had a good time. He said there was nothing that did him more good than to see the warm good feeling that existed among all the purifier employees for themselves and for the Company.

READY FOR ANY HONEST WORK.

A recent writer defines "worry"—a trouble which makes many people sick, and even some to die—to be labor done without faith. He means by this, efforts made without confidence in the success aimed at. There is a world of truth in the saying, "Courage, always courage!" A successful man who overheard a less sanguine person draw out "I wish I could," turned upon him suddenly with the words, "Say I will, and you can!" That is what the energetic man had proved in his own experience, and what many a languid individual might prove too, if he would only once wake up. "Our doubts," as the great poet has it, "are traitors."

The passengers and idlers in a certain street in New York were once upon a time amused by the proceedings of a poor fellow whom the police did not interrupt, though his movements gathered crowds, who stopped to look on and inquire. They went their way, admiring a persistence which almost argued insanity. The man had applied at the door of a store for assistance. "You are strong and able," was the answer, "why don't you go to work?"

"Work! I would gladly, if any one would give me work to do."

"Will you do a day's work if I give you a day's wages?"

"Try me," was the answer.

"Well, take that brick—put it on the curb at the corner of Nassau street. Pick it up again and carry it to the corner of the Park. There lay it down. Take it up again and carry it back. Repeat the walk until the working hours are over, and I will pay you a day's wages?"

If the man who gave this apparently senseless direction imagined that the other would

refuse the arrangement, he was mistaken. The man took him at his word, plodded on through a long summer day, and received not only his money but the applause of the crowd, quite as well bestowed as those upon the victor in any walking match.

If he had "worried" over such questions as "What is the use?" he could not have done it. His aim was honestly to earn a day's wages, and he accomplished it. It was not, to be sure, a very ambitious purpose, or a very dignified employment of muscle without mind. But it was done without "worry" and he survived that day and provided for himself food for the next. And it is safe to say that man got around all right in other employment. He was a philosopher in humble attire, capable of teaching many a more pretentious individual, with ample means, one great secret of life. We have only one day at a time to live in, and it is never worth while to shorten the work of that day, while we lengthen the hours in weary speculations as to the utility of any honest pursuit, or in doubts as to results. "Meeting trouble half way" is, in the timid sense, even more foolish than "dropping buckets into empty wells and growing weary drawing nothing up." The world and its doings are made up of trifles, any way—some sad, some glad, and others foolish. But any honest folly which pays is better than worry, which is usually only compensated, when the best comes or the worst is over, with the reflection, "What a flat I was!"

FLOUR MADE OF WOOD.

A correspondent of the *Sun*, writing from the Catskills, says: "The chief industry up here is producing wood flour, a kind of cousin to wood pulp. It was first manufactured in the Catskills, about nine years ago, and now over twenty mills are in full blast. The process is exceedingly simple. Any soft-wood tree—poplar is the favorite—is felled and drawn to the mill. Bark and boughs are removed, and the trunk put in a machine which is nothing but a lead-pencil sharpener on a large scale, with four or more knife-edges instead of one. On starting the machine the pencil sharpener revolves with great swiftness, and in a few minutes converts the log into a hundred miles of fine clean shavings. These are ground and bolted exactly as in a flour mill. The product is a soft, fine, yellowish-white flour similar in appearance to a very well ground corn-meal. It possesses a slight woody smell, and is almost tasteless. It is put up in large bags, and then is dispatched unmarked, to the buyer."

"I tried to find out who purchased the article, but with no success. The wood miller was not very communicative. 'It makes,' he said, 'well, I don't know how much exactly. One log may give five bags and it may give ten. It sells well—that is, pretty tolerable. I reckon I clear about eight or nine dollars a day out of it—perhaps more. I never figured it up. What's it good for? Good many things. It's used to stiffen paper, but if you put in too much the paper gets brittle. Paper stock is dearer than poplar flour, and that's why they put it in. If you mix the flour with linseed gum and 'biled' oil, you get a kind of oil-cloth. Some folks mix it with meal to give to pigs and other animals. I guess it's good, but I never give it to my hogs, and even those fellows give it to some other fellow's critters and not their own. Yes, I have heard that some bad contractors mixed it with meal for army and Indian supplies, but I don't take much stock in the story, because they could buy sour meal as cheap as poplar flour. It wouldn't pay to mill pine or cedar or hemlock; they are worth too much as timber. But any wood that isn't used that way can be milled into flour. I use poplar almost altogether, but when I run short of logs I grind up button-ball, birch, elm or willow."

"The farmers dislike the new industry, as it promises to play havoc with the forests, which are both an attraction to the boarder and a protection to agriculture. The tanneries years ago, used up nearly all the oak and hemlock; the lumbermen have stripped the country practically of pine, cedar and walnut; the chair factories are consuming the hickory and maple; and now the wood-flour mill promises to grind up what remaining trees there may be."

The practice of pouring oil on troubled sea water has led a Scotchman to design a shell which can be fired from a mortar, and which in bursting spreads the oil it carries over the sea. The shell is fitted with two fuses, which are set alight by the explosion in the gun, and burn although the shell is under water. On the bursting of the shell the oil spreads over the surface, producing smooth water. The device was recently tried with success; the object being to still the sea between two ships in order to let a boat pass from one to the other. The shell fired from the ship carrying it (and every ship might carry a few), burst between the vessels, and calmed the waves with the oil.

UNITED STATES MILLER.

E. HARRISON CAWKER, EDITOR.

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 For estimates for advertising, address the UNITED STATES MILLER.

[Entered at the Post Office at Milwaukee, Wis., as second-class matter.]

MILWAUKEE, SEPTEMBER, 1884.

We respectfully request our readers when they write to persons or firms advertising in this paper, to mention that their advertisement was seen in the UNITED STATES MILLER. You will thereby oblige not only this paper, but the advertisers.

Sworn Circulation, Above 5,000 Copies Every Issue.

OFFICE OF

The United States Miller,

No. 124 GRAND AVE.

Milwaukee, Wis., September, 1884.

To those interested in the Flouring Trade:

THE UNITED STATES MILLER is now in its ninth year, and is a thoroughly established and much valued trade paper. It has a large regular list of domestic and foreign subscribers. It is sent monthly to United States Consuls in foreign countries, to be filed in their offices for inspection by visitors. It is on file with the Secretaries of American and European Boards of Trade for inspection of members. Aside from the above, thousands of SAMPLE COPIES are sent out every month to flour mill owners who are not subscribers, for the purpose of inducing them to become regular subscribers, and for the benefit of those advertising in our columns. Every copy is mailed in a separate wrapper. Our editions have not been at any time since January, 1882, less than 5,000 COPIES each, and are frequently in excess of that (see affidavit below). We honestly believe that the advertising columns of the UNITED STATES MILLER will bring you greater returns in proportion to the amount of money invested than any other milling paper published. Advertisers that have tried our paper for even a few months have invariably expressed themselves well satisfied with the results. Our advertising rates are reasonable. Send for estimates, stating space needed. The subscription price of the paper with premium is One Dollar per year. Sample copy sent free when requested. We respectfully invite you to favor us with your patronage. We shall be pleased to receive copies of your Catalogues, and also trades items for publication free of charge. Trusting that we may soon be favored with your orders, we are,

Yours truly,
 UNITED STATES MILLER,
 E. HARRISON CAWKER, Publisher.

"MILL FOR SALE" ads. inserted once for \$2.00, or three times for \$5.00, cash with order.
 "SITUATION WANTED" ads. 50 cents each insertion, cash with order.

Publisher's Affidavit Concerning Circulation.

STATE OF WISCONSIN, } ss.
 MILWAUKEE COUNTY, }

E. HARRISON CAWKER, editor and publisher of the *United States Miller*, a paper published in the interest of the FLOURING INDUSTRY, at No. 124 Grand Avenue, in the City of Milwaukee and State of Wisconsin, being duly sworn, deposes and says that the circulation of said paper has at no time since January, 1882, been less than FIVE THOUSAND (5,000) copies per month; further, that it is his intention that it shall not in the future be less than FIVE THOUSAND copies each and every month; further, that he has paid for regular newspaper postage at the rate of two (2) cents per pound on domestic and Canadian newspaper mail for the last eight (8) months, including May, 1884, the sum of \$160.90, showing that in that time 8,045 pounds of *United States Millers* have been mailed; further, that the foregoing postage paid does not include postage paid on city and foreign papers (Canada excepted). [Signed]

E. HARRISON CAWKER,
 Publisher *United States Miller*.

Subscribed and sworn to before me, this 30th day of June, 1884.

B. K. MILLER, JR., Notary Public,
 Milwaukee County, Wis.

Amount of Postage paid for June, \$18.26; July \$17.62; August, \$17.58. Affidavits will be sent to advertisers from time to time. The original post office receipts can be seen at any time in this office.

See Page 72.

THE Pennsylvania Millers' Association will meet in the Assembly Hall, southwest corner of Tenth and Chestnut streets, Philadelphia, Pa., October 7, 1884. All millers are invited to be present.

It is reported that a Mr. Armstrong, of London, Canada, has succeeded in changing hard life spring wheat to fine hard winter wheat. The fifth year he reaped 35 bushels, the sixth, 44 bushels and the eighth, 57 bushels to the acre.

A copy of Ropp's Calculator and the UNITED STATES MILLER will be sent to any address for one year for \$1.00.

THE Indiana State Fair will open at Indianapolis, Sept. 29th. It is expected that it will be the most important fair ever held in that State. One million dollars worth of machinery, and \$1,500,000 worth of live stock will be on exhibition. The railroads will carry passengers to and from Indianapolis at half fare.

The New American Dictionary and the UNITED STATES MILLER sent postpaid to any address in America for \$1.60.

THE Canadian Pacific Railroad is about to commence the construction of a million-bushel elevator at Fort William, which point they have chosen for the Lake Superior port in lieu of Port Arthur. This point, it is stated, at the mouth of the Kaministiquia River, presents a natural excellent harbor, and was the original selection of the Mackenzie government for the railway terminus.

MILWAUKEE millers begin to feel as if the milling business will soon improve in condition. Lower prices for wheat are expected soon and a better foreign demand for flour. Freights are low. The output for the past month has ranged from 3,000 to 4,000 barrels per day. Several of the mills are shut down at present, undergoing improvements and others are running only on half time. The Star mill (Nunnemacher's) will soon start up again. All things considered, the milling business in Milwaukee is slow but not bad.

WE have received a copy of SITTIG'S DIRECTORY OF BREWERS AND MALTSTERS IN THE UNITED STATES AND CANADA, published by Eugene A. Sittig of Chicago, Ill., publisher of the *German American Miller* and the *Brewer and Maltster*. The work has been prepared with great care, and without doubt is the most perfect directory of brewers and maltsters ever published. The price is \$5 per copy, which includes a copy of the *Brewer and Maltster* for a year. Manufacturers desiring to reach this trade should lose no time in securing a copy.

That valuable book "Moore's Universal Assistant and Complete Mechanic" and a copy of the UNITED STATES MILLER for one year will be sent to any address in America for \$2.75. Order now.

THERE will be a very complete exhibition of flour milling machinery at the St. Louis Exposition, which opens Sept. 3. The list includes the Downton Mfg. Co., Todds & Stanley and W. H. Forman, St. Louis; the Case Mfg. Co., Columbus, O.; Howes & Ewell and August Heine, Silver Creek, N. Y.; Richmond Mfg. Co., Lockport, N. Y.; Stillwell & Bierce Mfg. Co., Dayton, O.; Kirk & Fender, and Wilford & Northway, Minneapolis; and Edw. P. Allis & Co., of Milwaukee, who will also furnish one of the large driving engines for the exposition building.

A RECENT edition of the *New Orleans Picayune* was printed on paper made of bagasse, the refuse of sugar cane after the juice is squeezed out. This event has created a stir in several quarters. The sugar planters of Louisiana, who have burned this hitherto worthless stuff to get rid of it, now see a possibility of making money out of it, and a few enthusiasts reckon that it will be nearly as profitable as the sugar crop. Southern capital sees a new opening for investment in the manufacture of bagasse. Paper buyers in the South look forward to emancipation from Northern mills and heavy transportation charges on their purchases. Northern manufacturers, who have long and eagerly been studying how to make paper more cheaply, will give this development close attention, and think of several ways in which it may affect their trade. And finally, consumers of paper generally will be alert to the suggestion here afforded that that article may become cheaper and more abundant.

WILLIAM TRUDGEON, the representative of the Richmond Manufacturing Company, of Lockport, N. Y., meandered into our office one day last month, a ghost of his former self. Even his lead pencil was worn down to a stub which he could scarcely hold in his attenuated fingers. He shook us feebly by the hand and sat down languidly. We gazed at him in sorrow and surprise, while tears of sympathy sprang from our eyes and coursed their way over our storm-beaten and weather-hardened visage.

"O William, why is this thus?" we asked. He heaved a sigh and faintly answered, "I have been working too hard—have taken so many orders for our machines that my constitution is demoralized, my by-laws suspended, my order book used up, and my lead pencil everlastingly worn out. The house has written to me, saying: 'Well done, good

and faithful servant,' go and take a month's rest."

Upon hearing this statement of affairs, we advised him to go to Oconomowoc, and catch fish, drink mineral water and flirt with the girls.

"Are there girls there?" he said, brightening up.

We assured him that there were; and we have now the pleasure of informing his friends that William is gaining health rapidly, and is having a glorious time at Wisconsin's favorite summer resort. We advise millers to look out for him when he regains his health and goes on the road again.

The Bankers' Association, to which we referred recently, has met at Saratoga and adjourned. The practical profit to the public at large that can be derived from this meeting, as judged from the press reports, consists of nothing but the suggestion to establish a central bank in New York City, for the receipt of country deposits. All other leading problems, such as the additional security of banks, speculating with the money of other people defaulting officials, etc., etc., in which the public would take a direct interest, were left severely alone, or at least not made public. Perhaps the discussions at the meeting were highly interesting to the bankers, but the reports of their proceedings indicate a vast amount of theorizing from insufficient data, and the public is just as ignorant about banking transactions now as it was before the meeting. Whether such transactions have to shun the light of publicity, or whether the members of the Bankers' Association consider it below their dignity to discuss such every-day matters, is a question which we are unable to decide at present.—*Milling World*.

THE UNITED STATES MILLER for one year and "Ogilvie's Popular Reading No. 3," will be sent postpaid to any address in America for \$1.00.

"Fifty Complete Stories by Famous Authors," and the UNITED STATES MILLER for one year will be sent to any address in America, postpaid, for \$1.00.

BIG WHEAT FARMS.

It is said that many owners of great wheat farms in the Northwest are forming the opinion that wheat-raising on a gigantic scale is poor economy. By the present system the land is cropped to worthlessness and the market heaped up with grain for which there are no buyers. The soil is persistently robbed with untiring industry. Every virtue is drawn from it year after year, and nothing is done to restore it, except to leave on it the ashes of burned straw. This wholesale cropping is not tillage any more than indiscriminate pot-hunting slaughter is sportsmanship. The land yields but a light harvest even when it is virgin, and it is only rational to conclude that the fate of the worn-out wheat lands of California must be the fate of the prairies of the Northwest, if the monster farm system is persisted in. The fertile regions of the great West are needed for industrious emigrants who want homes, and with close tillage and with the fertilizing matter of their barn-yards will keep up the land instead of wearing it out. These great wheat raisers are said to be the most fatigued men on earth, and W. T. Hastings, of Graceville, Minn., a very plain-spoken man, has been telling them lately that "they might be doing something better than raising wheat in competition with Russian boors and the wretched ryots of India."—*Baltimore Commercial*.

THE MOCKING BIRD.

A Milwaukee theatrical manager was presented with a mocking bird a few months ago, by a friend. The happy manager "set 'em up" in fine style, bought a gilded cage for his bird, hung him up in his office and waited patiently day after day to hear it warble. But the bird would not warble worth a cent, notwithstanding the fact that its owner treated it with the utmost care. An idea one day flashed through his brain and he rushed out and brought in a German dealer in birds to inspect his mocking bird. After a moment's hesitation, the bird-fancier exclaimed, "Donner und Blixen! Dot bird never sing. He was a she—und dey don't sing at all." "Just what I thought," said Mr. Manager, and he resolved to get the joke on somebody else. Presently one of his employees came in and he said: "Jim—I have not got time to take care of that bird, and although he is valuable, I'll let you have him for a half week's salary." "Done," said Jim, and he bore off the bird triumphantly. This was on Monday morning. On Saturday night, Jim presented himself to the manager, whom he had not seen since Monday, and demanded payment for a half-week's salary. "Great Caesar!" said the manager, "I have not seen you since last Monday morning. What have you been doing all this time?" "Diggin

worms for that d—n mocking-bird," answered Jim. The manager weakened and handed out \$6 to Jim for his half-week's salary.

BOLTING CLOTH.

Few people know to what use bolting-cloth can be put, and few know its origin or place of manufacture. It was made in the early times in milling history, of wool, cotton and linen, in Holland, but subsequent improvements in the production of the higher grades of flour, has made it necessary to use silk of the finest quality, in order to make a more even mesh, which is essentially necessary to insure an even running grade or brand of flour, for which any miller may have made a reputation. It sounds somewhat remarkable that the article in question cannot be successfully manufactured outside of Switzerland, though attempts have been made both in Germany and France. There is only one canton in Switzerland (Appenzell), and in it only four townships, wherein the climate is favorable, and the houses are built for the express purpose of weaving bolting-cloth by hand-loom. These looms are situated in the cellar of the house on account of the temperature or climatic influence, and to produce a continual even running number of meshes one weaver is continually employed upon a certain quality or number of bolting cloth. The numbers run from 0000 to 18, and grit gauges from 16 to 68 inclusive. Each number if properly made should contain a given and known number of meshes to the square inch, which can be readily counted through a magnifying-glass. Although there are several manufacturers of bolting-cloth located at Zurich and other points in Switzerland, they are compelled to send their silk to the Canton of Appenzell in order to have it woven. Only two leading firms are directly located in or near the scene of manufacture, Dufour & Co., in Thal, which is on the edge of the Canton St. Gallen, and Hohl & Preisig, Luttenberg, near Thal, in Appenzell proper.

All numbers of bolting-cloth, from 0000 to 12, are also made in extra and double extra qualities, and although strictly speaking, it would be expected that not only these, but all numbers above 12 should be made in extra and double extra qualities, it has been found practically impossible, as the threads used must be thoroughly stretched in order to produce an even square mesh; it has been found expedient by some manufacturers to make the higher numbers in half gauze only; that is to say, where two threads build a chain in the lower numbers, an alternate thread is made to answer the purpose in the higher ones and this is readily understood by the practical men in the line. Besides millers, glucose and chemical works are now using the article extensively. Ladies use it to do fancy work and painting on. It is allowed to enter duty free.—*Millers Journal*.

MILLING RICE.

Before the war our rice crop came chiefly from the Carolinas. During the past ten years the rice industry has been extended to Louisiana, where over 60,000 acres are now devoted to it, and the annual crop of the country has been largely increased. In the meantime, great improvements have been made in the methods of threshing, and cleaning the grain by the introduction of machinery. When the grain is cut, it is stacked in the fields to sweat, to facilitate the threshing, after which the rice is sent to special mills for hulling and polishing. There are about a dozen mills of this sort which have been built in New Orleans during the past decade. Each mill employs from twenty to forty hands, and all are busy. The rough rice is received in large bins, from which it is taken by elevators to the upper floor, where it is winnowed and sifted to remove sticks and rubbish. To remove the beard the rice is passed through a revolving "hood-lum," from which it is carried to the "stones," which crack off the hull. Then the dark colored grains are polished for market. The polisher consists of sheepskin, tanned, stretched over wool on revolving cylinders, the space between the sheepskins and wire gauge being just sufficient to allow the rice grains to find their way by degrees to the bottom. The grains are highly polished by the friction against the skins, which rubs off the bran, and leaves the grain clean and white. The bran amounts to eight barrels for every hundred barrels of clean rice. It is sometimes used for the adulteration of spices. The waste in the hulling averages about 5 or 6 per cent., but sometimes reaches 20 per cent. Altogether our local market, with its facilities and methods of doing business and clearing rice, may be fairly considered on the way to become the most prominent rice market in the country.—*N. O. Times-Democrat*.

"WELL, now," exclaimed an old waterman at Atlantic City, "if that ain't the funniest way to spell 'fish' I ever seen," pointing to the name "Psyche" on the stern of a pretty little yacht.

WHEAT REDUCTION AND BOLTING.

Bolting flour is a subject that there has been a great deal written upon, and it is a subject that at the present day exercises and worries the minds of millers, great and small, more than any other part of milling.

It is universally the case that for a few weeks after a mill starts up for the first time on gradual reduction, the miller, proprietor, and all hands, are in high hopes and spirits if the mill is but of an average modern arrangement. Their flour is to all appearances better than anybody's. It is giving satisfaction to customers, and their eastern correspondence is flattering, and is calling for all the flour that they can send there. When all of a sudden the proprietor begins to figure up and finds he had about so much wheat when they started, and that he should have had so many barrels of flour. All hands are called on deck, and matters are discussed in a low tone. The final conclusion is arrived at, viz: That there was either a mistake in the amount of wheat they had on hand, or it was not of a quality or grade that would justify them in expecting so much flour. However, the head miller and proprietors have grave doubts in the premises, and set to work to make a dead sure test, when it is found that 10 to 60 pounds more wheat had been used than they had been figuring on to make a barrel of flour. Somebody is to blame. Proprietors are provoked; head miller gets angry, and the second miller very likely feels that if he only had the head miller's place he could show them a trick, and the sweeper thinks he could fill the second miller's place. All this time the head miller has been making a general hunt to find out what became of the 10 to 60 pounds of wheat to the barrel. He has found it, and full of confidence and hope, goes to the proprietors. When the proprietors ask where it has gone, the answer generally is that "it has gone into the fine finished middlings," or what is called by a good many "second finished ship stuff," and is at once confronted with the request to order a centrifugal reel. Every centrifugal reel in the market is discussed, prices compared, and the merits and demerits of each is talked over, and one selected, no matter what one, as I cannot see where one has any advantage over any of the others, as I shall show that they are all wrong in principle, and it has always been my firm conviction that where a thing is wrong in principle, no amount of mechanical construction and blowing about the great number in use, can rectify that principle.

Now, we all know what the old-fashioned, six-sided reel is, and we know it has been as much of a standby in flour making as the millstone has been, although I must say it has many more imperfections, and has not been held in the same reverence as the old millstone.

The rough, heavy, tumbling action of the material being bolted is entirely too harsh and uneven. This is shown from the fact that in order to make them do a proper amount of bolting, they have to be well loaded, and clothed coarser at the head than further along on the reel.

It is almost universally the case, that reels are placed in chests, one above the other, in order, as you all know, to make them convenient to send the cut-offs down to the next reel, clothed with one number, or more, finer cloth. What is this done for? Should not that flour have passed through the first cloth it went into, if it is fine enough to go through a finer cloth further on or in the next reel? The whole secret lies in the fact that it has not come in contact with the cloth on the first reel, the first reel having to be loaded too heavily, even if it is clothed coarser, as there is very little sliding action of material on the cloth. When the material jumps from one section to the other, the light, impalpable flour dust kind of floats along, and the rough heavy material strikes the cloth, forcing much rough material through with that portion of fine flour that is forced down on to the cloth by the action of the coarse material. This continues to go on until a greater portion of the fine impalpable flour dust is bolted out, and the material in the reel has become so reduced in volume, that there is not enough fine flour in the reel to protect and hold the coarser granules from driving through.

Then the flour begins to bolt gray and specky, and the miller begins to pull slides and send the cut-offs to the next reel, clothed with finer cloth. Now the fact is too plain to need any argument: the fine flour that will bolt through the lower reel on a finer cloth than it has passed over, should have gone through the first cloth if the principle had not been so plainly defective. The fact is that but about one-twelfth of the cloth on the reel is at work at any one time, and that which is at work is being forced and over-worked; and as the material works further along towards the

tail of the reel, it is not so velvety, and strikes the cloth as it is thrown, or drops over the ribs of the reel from one section to the next with a much more solid impact, thereby forcing specks and dirt through the cloth with the fine flour. This should not be done. If the reel were correct in principle, all the fine flour should have reached the cloth in the first ten feet of the reel, and bolted out, and not have strung out over from thirty to sixty feet in length, as it is almost the universal custom where the bolting has to be done by two or three six-sided reels, one placed above the other and each one graded with finer cloth than its predecessor.

In order to do perfect bolting, the material to be bolted must have a gentle sliding action on the cloth, and the cloth must be so arranged that it will turn upside down continuously, and cleaned on the upper side of the reel when the cloth is passing over the centre of the reel, thereby driving back any specks or heavy angular, oblong particles that may be endeavoring to crowd through.

The action of a six-sided reel is wrong, and every well-posted miller knows it; but how to remedy the evil, has been the most perplexing proposition that has ever fallen to the lot of mill-machinery inventors. There have been millions of dollars expended by inventors, millers and millwrights all over the world, where flour is made, trying to improve the well known defects in the six-sided reel. Many mill furnishers who build bolting chests, polish them up on the outside, giving them many nice handy trappings, to make them appear pleasing to the eye, but still they may be compared to sugar-coated pills; get into them, and they are troublesome.

The closest attempt that has ever been made to do as good work as a six-sided reel can do,

one width, and only a certain number of them to the machine, others will have wider flyer blades, and a less number to the machine, some have them with iron blades, and notched out along their outer edges. No two makers can agree on the same number of flyer blades, and on the distance they shall run from the cloth, some run within an inch, some two inches, some three and three and a half inches.

Now they all have open flyers like a fan, and all have to run at a high rate of speed, so that the flyer blades will act as a fan to create a centre vacuum in the flyer cylinder to prevent the material that is being disintegrated and bolted from dropping back through the open flyer blades to the lower part of the reel, thereby overloading that part of the cloth. Now, it is a plain, positive fact that in running a flyer cylinder with 20 to 40 (more or less) flyer blades at a speed that will make a whole or a partial vacuum, there is at once a war of air, that on the inside, trying to force itself out against the air which is endeavoring to rush in to fill the vacuum that the blades in their rotation have produced.

Let anyone draw a 30 or 36 inch circle to represent the bolting cloth (or I should say disintegrating cloth) then another circle inside, seven inches smaller in diameter than the outer circle: this last circle represents the outside line of travel of the flyer blades, and is three and one-half inches from the outside circle of the cloth. Now draw a horizontal line underneath the outer circle, and raise two perpendicular lines, intersecting the inner circle at its diameter, and you will readily see that gravitation and the force of the air from the flyer blades is bound to hold all material in the reel away from the

the solid cylinder is built up with staves, built on to the solid inside heads that are cast zigzag to form 24 shaped troughs in its circumference. The apex of these troughs come within 4 of an inch of the cloth the whole length of the reel. Every other stave is cut out for 6 or 7 inches back from the reel head, also the same at the tail end. The material is fed in at the center of the reel by a well-designed spout and screw conveyor on the shaft, and is distributed out through the openings in the end of the inside cylinder, which is not solid, as above described, for 6 inches from the head. The material falls through these openings on to the cloth, and rapidly works itself towards the tail of the reel between the solid part of the cylinder and the cloth. The cloth and the solid cylinder all travel together at the same speed, which in no case should exceed 30 revolutions per minute for a 36-inch reel. When the material reaches the tail end of the reel, it is dropped back through the slots in the staves which constantly carry the tailings up, dropping them into a central conveyor on the shaft, the same as the head conveyor which carries the tailings out up at the center of the reel. The reel has two conveyors under it, and steep cant boards leading down to them with effective and ingenious cut-offs, so as to cut off from one conveyor to the other at any point desired. Should a hole accidentally get in the cloth, a cut-off can be pulled and the specky flour sent to the other conveyor without interfering with the good clear flour either side of it. This arrangement allows the miller to run right along until he stops the mill or until it is convenient to stop the reel and patch the hole in the cloth. There is no speck head or tailings partition about the reel, but it runs as clear and as free as if

it were suspended on its journals in mid air. I have invented a perfect device for preventing specks from getting out and back into the flour at either end, which requires no close-fitting joint or constant annoyance to the miller, and nothing is in the way to prevent the miller from taking off or putting on the cloth, which can be done in twenty minutes by a miller used to such work.

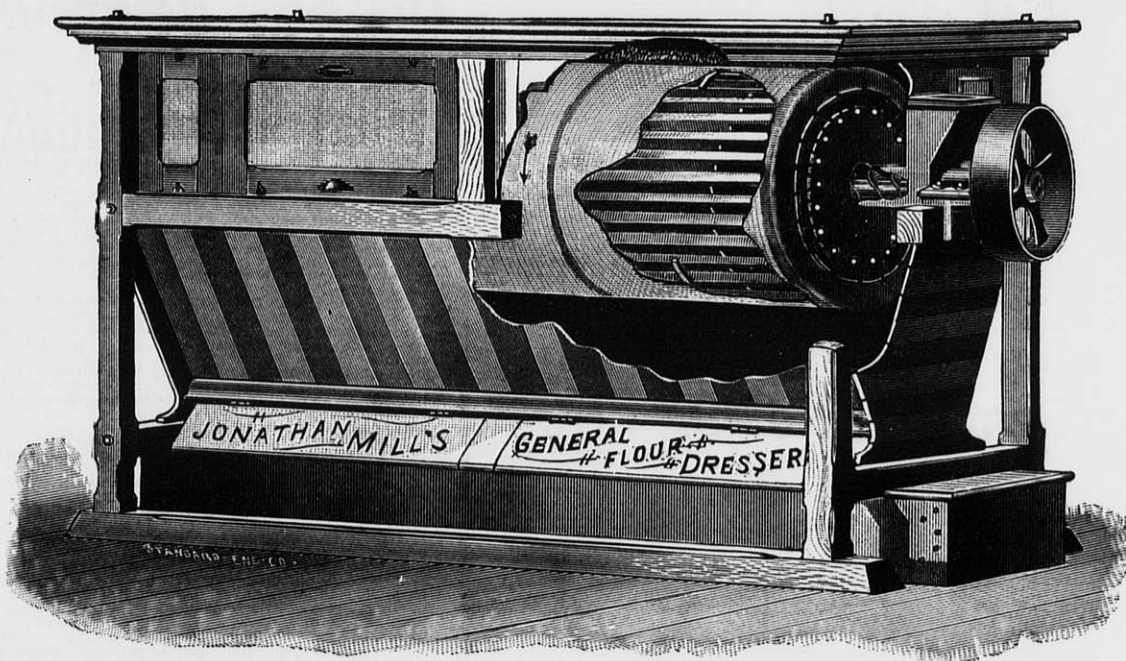
There are twelve round Russian bristle brushes, six inches long, carried in an open box partitioned off with tin for each brush. This box and the brushes are suspended right over the top of the reel, which allows the brushes to rest down on the cloth. Each brush weighs less than one ounce, and is not suspended on journals but rests with its own weight on the cloth, and is rotated solely by the rotation of the cloth under it; they are the most perfect cloth cleaners ever invented.

For wire-covered reels I use a round steel brush, same size every way as the bristle brushes, operated in the same manner. These brushes will keep a wire-covered scalping reel perfectly clean all the time. Every miller well understands and can appreciate the great advantage of keeping a scalping reel clean, and not have to be sweeping or hand brushing it several times on each watch. The 36-inch reel occupies 10 feet in length over all, and 44 inches in width, 5 feet 10 inches in height, and should run 28 revolutions per minute, and we shall put on a 24-inch pulley, six inches face, unless otherwise ordered.

The capacity is one of the wonderful features about it: its perfect clearness of bolting cannot be approached, let alone equaled. It will bolt clear from end to end of the reel, and leave the tailings dustless. This is a feature not accomplished by any other reel or bolt. It is believed to have a capacity for handling all the break flour, after it has been scalped through a No. 6 or 8 cloth, of a 600 barrel winter wheat mill, and I am now fixing to give it a test in a mill about that capacity. The first one built has been running constantly day and night for about eight weeks here in the city, in M. C. Dow & Co's mill, giving perfect satisfaction. It has been tested thoroughly, right where it stands, on several different kinds of material, and not found wanting in any spot or place, quantity or quality.

There are three different makes of centrifugal reels in the mill, the best in the market, also a Morse bolt. We have the order about completed for six more reels, built double, two in a chest, one above the other, to go in the same mill. The top reel of each pair is to scalp the breaks and the lower reels to bolt the break flour. This is the kind of endorsement that counts.

This reel will enable millers to do their bolting in much less space, with less power, fewer reels and to obtain more perfect bolting than has ever before been accomplished. It does its work by a gentle sliding action on the cloth. The solid fluted cylinder running so close to the cloth in the same direction with the same speed of the



has been made by Centrifugal Reels. There has been a strong fight made by mill machinery manufacturers in the old countries and in this country, to make them take the place of the old reels, because they could be built at shops and factories, and, if they could be made to answer the purpose, they would take up much less room in a mill; all of which is very desirable. They have utterly failed to take the place of the old reels, in Europe or this country, as general bolters, but are used to quite an extent on tailings and crushed material of different degrees of finish, and in some places they are endeavoring to use them for the entire bolting system in the mill. They have been persistently and extensively pushed into the mills of this country to a greater extent than in European countries, for the short time they have been introduced in this country, which only goes to show how utterly dependent on the mill-machinery inventors of Europe our American inventors are placed as regards improvements in flour making. They fell on to a principle in bolting, and commenced to apply that principle in the shape of the Centrifugal Reel. Finding that they were compelled to have a disintegrator, and finding that a Centrifugal Reel was adapted for that kind of work, they commenced using it for that purpose. To-day nine out of every ten of them are used as disintegrators or detachers. How many of the millers would have bought them had they been offered as disintegrators? The fact is they have bought them as bolting machines, and think they are using them for that purpose; but they are using them to do what should be done on rolls, and handled on a regular well and properly built bolt, sound in principle and gentle in action.

There are ten or fifteen centrifugal reels built in this country, and each one claimed to be the best, and each claimed to be better than any European machine. All that the makers think is necessary to give their particular centrifugal reel prestige, is to claim some half dozen minor improvements; some peculiar shape or twist, or no twist, to the flyer blades, or some will have the flyer blades

flyer blades until the material is carried up high enough to fall back into them. Then the blades strike the heavier coarser, middlings, or harsh material, and slam it back against the cloth, whipping a great portion of the flour right over the blade nearest it. Then it is curved back over the blade, only to be forced out, up, and over the next blade to again repeat the same operation behind that blade, and that operation is continually carried on, and all the time the fine, light flour dust is doing its very utmost to rush in behind the blades to fill the vacuum created by the blade it passes over. While the coarser particles are being slammed out against the cloth, the greater part of the lightest of the flour is riding around between the cloth and flyer blades, and is only driven out by accident in getting in front of the heavier material. Anybody can readily imagine the action that a flyer blade would have on the material.

I will now describe my Universal or General Flour Dresser, and will say right here that I call it a general flour dresser for the reason that it is perfectly adapted for bolting any material to be bolted in a mill from cellar to garet; and I propose to build it for scalping the different wheat breaks, for grading and screening wheat, for bolting the chop from the breaks, and for first grade as well as for rebolting any and all grades of flour. I will now briefly describe its construction, the simplicity of which makes its description very easy with the aid of the cut which shows its exterior form or shape, which is almost exactly the size shape and appearance of many of the centrifugal reels made in this country and Europe. The cut represents my 36-inch reel; the cylinder is 36 inches in diameter, and carries two widths of bolting cloth, making of the actual bolting cloth 79 inches in length. The cloth is carried on flat spring-steel hoops 36 inches in diameter, five hoops in the length of the reel. These hoops are suspended on a corrugated central drum. The drum has solid heads at each end, set back six or more inches from the reel head and tail. By examination of the head end of the cut, it will be seen that

(CONTINUED ON PAGE 73.)

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cloth, enables nearly the whole cloth to be bolting at the whole time, hence the great capacity. There is no pounding, slamming or whipping the flour through the cloth by any forced action. Hence there is perfect bolting accomplished. There is no blowing out of flour when the doors are opened to see the reel in operation. I have personally tested nearly every centrifugal reel in the market, and was so dissatisfied with their operations that I set about to overcome their defects of principle, and invented and patented a solid cylinder reel over two years ago, and made an attempt to build it and put it on the market, but I did not have the means to do so with the many other improvements that I was carrying through. I have no word of censure, but I have simply been unfortunate in procuring the proper backing to place my improvements properly on the market. I now offer the reel knowing it is constructed on sound principles, and I believe it is the greatest improvement that has ever been made in bolting; and every person who knows me and has seen any machine that I have ever built, I believe will give me credit for most perfect design and mechanical construction, and I can assure you this reel is no exception. It will be an ornament as well as durable and perfect in construction. The prices are reasonable. I have arranged to have them manufactured by the Cummer Engine Company, Cleveland, Ohio, who will furnish prices and machines on application. I most respectfully solicit your orders.

In handling this subject, I have done so with plain facts, plainly stated, regardless of whose ox is gored. It is the only way to do the subject justice.

I have all due personal respect for other inventors and manufacturers, but, in my opinion, they are building and offering machines not correct in principle, and are inducing millers to believe they are right when they are wrong. But right or wrong, I expect each will attempt to defend his machine. Their arguments I shall respect if well taken. A courteous criticism of any machine will always command my respect. Any uncourteous or personal criticism, I know, will have no weight with the sensible and successful miller.

JONATHAN MILLS.

Cleveland, O., August 30th, 1884.

IN A LOGGING CAMP.

Bill Nye, who now lives in Hudson, Wis., visited a logging camp, and writes of it as follows to the *Denver Opinion*:

I put up at Bootjack Camp, on the raging Willow River, where the gay-plumaged chip-monk and the spruce gum have their home.

Winter in the pine woods is fraught with fun and frolic. It is more fraught with fatigue than funds, however. This winter a man in the Michigan and Wisconsin lumber camps could arise at 4:30 A. M., eat a patent paiful of dried apples soaked with Young Hyson and sweetened with Persian glucose, go out to the timber with a lantern, hew down the giants of the forest, with snow up to the pit of his stomach, till the gray owl in the gathering gloom whooped and hooted in derision, and all for \$12 per month and stewed prunes. I did not try to accumulate wealth while I was in camp. I just allowed others to enter into the mad rush and wrench a fortune from the hand of fate while I studied human nature and the cook. I had a good many pleasant days there, too. I read such literary works as I could find around the camp, and smoked the royal Havana smoking tobacco of the cookie. Those who have not lumbered much do not know much of true joy and sylvan smoking tobacco.

They are not using a very good grade of the weed in the lumber regions this winter.

When I say lumber regions I do not refer entirely to the circumstances of a weak back. (Monkey wrench, oil-can and screw-driver sent with this joke; also rules for working it in all kinds of goods.) The tobacco used by the pine choppers of the northern forest is called the Scandihoovian. I do not know why they call it that, unless it is because you can smoke it in Wisconsin and smell it in Scandihoovia.

When night came we could gather around the blazing fire, and talk over old times and smoke this tobacco. I smoked it until last week; then I bought a new mouth, and resolved to lead a different life. I shall never forget the evenings we spent together in that log shack in the heart of the forest. They are engraved on my memory where time's effacing fingers cannot monkey with them. We would most always converse. The crew talked the Norwegian language, and I am using the English language mostly this winter. So each enjoyed himself in his own quiet way. This seemed to throw the Norwegians a good deal together. It also threw me a good deal together. The Scandinavians soon learn our ways and our language, but prior to that they are quite clannish.

The cook, however, was an Ohio man. He spoke the Sandusky dialect with a rich, nut-brown flavor that did me much good, so that

after I had talked with the crew a few hours in English and received their harsh, corduroy replies in Norse, I gladly fled to the cook shanty. There I could rapidly change to the smoothly flowing sentences peculiar to the Ohio tongue, and while I ate the common twisted doughnut of commerce we would talk on and on of the pleasant days we had spent in our own native land. I talked to him of his old home till the tears would unbidden start; he rolled out the dough with a common Budweiser beer bottle and shed the scalding tears into the flour barrel. Tears are always unavailing, but sometimes I think they are more so when they are shed into a barrel of flour. He was an easy weeper. He would shed tears on the slightest provocation or anything else. Once I told him something so touchful that his eyes were blinded with tears for the nonce. Then I took a pie and stole away so that he could be alone with his sorrow.

He used to grind the coffee at 2 A. M. The coffee mill was nailed up against a partition on the opposite side from my bed. That is one reason I did not stay any longer at the camp. It takes about an hour to grind coffee enough for thirty men, and, as my ear was generally against the pine boards when the cook began, it ruffled my slumbers and made me a morose man.

We had three men at the camp who snored. If they had snored in my own language I could have endured it, but it was entirely unintelligible to me as it was. Still it wasn't bad, either. They snored on different keys, and still there was harmony in it—a kind of chime of imported snore, as it were. I used to lie and listen to it for hours. Then the cook would begin his coffee mill overture, and I would arise. When I got home I slept from Monday morning till Washington's Birthday, without food or water.

A WONDERFUL SUBSTANCE.

Among the most interesting developments which have followed in the wake of the discovery of petroleum is the immense trade which has sprung up in ozokerite, or ozocerite as Webster has it. No fairer substance ever sprung from most unpromising patronage, than the snowy, pure, tasteless, opalescent wax which is evolved from the loud-smelling, pitchy dregs of the petroleum still. The remarkable properties of ozokerite have won for it a field of utility in which it reigns well nigh supreme. This comely impressionable article, with all its smooth, soft beauty, defies agents which can destroy the precious metals and eat up the hardest steel as water dissolves sugar. Sulphuric and other potent acids have no more effect on ozokerite than spring water. It is alike impervious to acid and moisture. Its advent seems to have been a special dispensation in this age of electricity. Every overhead electric light cable, or underground conduit or slender wire, cunningly wrapped with cotton thread; all these owe their fitness for conducting the subtle fluid to the presence of this wax. And in more familiar forms let us outline the utility of this substance. Every gushing school girl who sinks her white teeth into this chewing gum chews this paraffine wax. Every caramel she eats contains this wax, and is wrapped in paper saturated with the same substance. The gloss seen upon hundreds of varieties of confectionery is due to the presence of this ingredient of petroleum, used to give the articles a certain consistency as the laundress uses starch. So that a product taken from the dirtiest, worst-smelling of tars finds its way to the millionaire's mansion, and honorable servitor. It aids to make possible the electric radiance that floods his room, or, in the form of wax candles sheds a softer luster over the scene. It polishes the floor for the feet of his guests, and it melts in their mouths in the costliest candies. For the insulation of electric wire, paraffine wax has to-day no successful rival, and the growth of the demand for this purpose keeps pace with the marvelous growth of the electric lighting system. A single Chicago concern buys paraffine wax by the car load. Its price is but half that of beeswax, and yet the older wax yields readily to sulphuric or other acid, this being a test for the presence of beeswax in paraffine. The demand for paraffine for candies as yet heads the list. Then comes the needs of the paper consumer. In 1877 a single firm in New York handled 14,000 reams of waxed paper. Not only for wrapping candy is this paper invaluable, but fine cutlery, hardware, etc., encased in wax paper is safe from the encroachment of rust or dampness. Fish and butter and a score of other articles are also thus wrapped, and there seems literally no end to the uses found for the paper saturated with this pure, hydro-carbon. In the chemist's laboratory it is invaluable as a coating for articles exposed to all manner of powerful dissolvents; brewers find it a capital thing for coating the interior of barrels, and the maker of wax flowers simulates nature in sheets of paraffine, and yet, until Drake drilled his oil well in 1859, the existence in this

country of this boon to civilization was unsuspected and it lay in the depths of Pennsylvania rocks, where thousands, possibly millions, of years ago it was stored by the hand of an allwise Creator.—*Cotton, Wool and Iron.*

NONSENSE.

NOT A KICKER.—Merchant Traveler: Ben. Ridgely, a Louisville newspaper man, who for the first twenty years of his life had been accustomed to feeding on champagne and diamond-back terrapin, has for the last twenty years been having a catch-as-catch-can wrestling match with the usual boarding house spread, and is still alive, but weak. One day early in the spring he went to his landlady with a complaint.

"Madam," he said, with a demi-semiquaver in his voice, and a piece of wetness in each eye about as big as a buckshot, "haven't I been a pretty good boarder for the two years I have been with you?"

"Why, Mr. Ridgely of course you have. Only yesterday a lady asked me how long you had been a member of the Young Men's Christian Association," replied the lady in surprise.

"Yes; and when you gave us eggs with feathers on, did I ever kick?"

"Wha—what's that?" stammered the woman thrown off her balance by the suddenness of the blow.

"And did I ever insist on your clipping their wings?"

"Sir, I don't—"

"And didn't I keep right on, even though you let the butter wear its hair banged, when you knew I hated bangs?"

"Mr. Ridgely, this is going too—"

"And did I complain when I found a button in my pie, because there wasn't a button-hole in the flap?"

"Sir, I won't stand this any—"

"And did I report you to the society for the Prevention of Cruelty when I picked that poor, helpless cockroach out of the biscuit?"

"Shut up, you—"

"Yes; and when I found a minnow in the milk did I ask you whether you milked your cow with a fishing-pole or a seine?"

"Wha—wha—wha—"

"Don't mention it, madam! When the steak was a little tough, was I one of the boarders who sent a buzz-saw and steam-engine up to the house?"

"I—I—I—"

"And did I ever object to paying for furniture repairs because the bread was so heavy that, when I swallowed it, it knocked the bottom of the chair out?"

"You mean, good-for-nothing—"

"Don't get excited, madam! Did I ever inquire whether you drew your tea with a windlass or a chain-pump?"

"O, you villain, you wretch, you—"

"I hear you, madam; and I want to ask if I ever reflected on your molasses-can by asking if you had a patent on that fly-trap?"

"O—o—o—o—o—"

"I ask, madam, did I ever do any of these things?" And I answer by saying, "Never—no, never." Therefore I want to know why in thunder—excuse my forcible language, please—when they bring me a plate of soup with a dish-rag in it, they don't bring along a pair of scissors to cut the darned thing up, so a man won't choke on it. That's all, madam."

When the lady was resuscitated Ben was compelled to go out into the cold, cold world and get another boarding-house. Such is woman's inhumanity to man.

HE COULDN'T GO TO CANADA.—"My arrest is a foul outrage," and I shall make the authorities suffer for it.

"What in heaven's name were you doing?"

"Absolutely nothing. I was engaged in work on my farm when the officers swooped down and captured me."

"Hm; yes. What do you raise on your farm?"

"Notes."—*Rochester Post-Express.*

AN EXTRAVAGANT HABIT.—He came in looking very tired.

"You look worn out, John," his wife said.

"Have you had a hard day at the office?"

"Not particularly so," he replied. "I'm a little (hic) tired. I walked up to-night instead of taking a car."

"You ought not to walk such a long distance after your day's work," she said, "and besides," she added, as a pungent odor of several beers filled the room, "we are very poor just now and you cannot afford to walk."—*New York Sun.*

THE DUDE.—Jennie—Oh, he was such a funny looking fellow.

Mary—He had such tight clothes on.

Alice—His legs were so thin.

Carrie—And his feet were so large.

Dick—How did he get his trowsers on them?

Jennie—I don't know unless—

Dick—Maybe he pulled them on over his head.—*New York Graphic.*

MR. GRANGER OBJECTED.—"I came up here to get the air," said a city schoolma'am,

who had engaged board at a Vermont mountain farm house.

"Well, by gosh, you won't get him!" remarked the son of the family, sotto voce, as he picked up the milk pail and went out to milk.—*New York Star.*

A TRANSFORMATION SCENE.—"Ma," said the small boy as they were taking the train out of town a few days ago, "you'll see something funny when we get back." "What will it be?" inquired his mother. "Why, all the buildings will be a different color." "Nonsense child; what gave you that idea?" "Well, pa told Mr. Smith last night that when you and me went away he was goin' to paint the town red," and then he wondered why his mother wouldn't let him stand on the seat or buy candy.—*Boston Post.*

A HUMILIATING MISTAKE.—"What shall I do with that?" thundered a tall delegate to a Chicago barkeeper as he shoved his glass across the bar.

"Why, you ordered whisky, didn't you?" stammered the barkeeper in affright.

"I ordered whisky, sah, but not that glass. I guess you don't know me. I'm from Kaintucky, sah, and my name is Henry Wat—"

"I beg your pardon, sir," exclaimed the barkeeper, as he hastily set up a demijohn and a quart goblet on the bar.—*Philadelphia Press.*

BEAUTY AND THE BUTTONS.—The girl with soft gray eyes and rippling brown hair, who walked all over your poor, fluttering heart at the charity ball, has just finished a crazy quilt containing 1,064 pieces of neckties and hat linings, put together with 21,390 stitches. And her poor old father fastens on his suspenders with a long nail, a piece of twine, a sharp stick, and one regularly ordained button.—*Burlington Hawkeye.*

"SAY, boss, what is de meanin' of bein' a Mormon?" inquired a lazy-looking coon of an intelligent State Department clerk, as the couple met a few days ago.

"A Mormon? Why, a Mormon is a resident of Utah and averages from two to eighteen wives."

"Well, boss, what fo' you white folks got so down on de Mormons and want to make 'em close dar business?"

"Because it is highly immoral, this thing of plurality of wives."

"I dunno nothin' bout plurality, but I jess wish I could be a Mormon right here in Washington. I've only got one wife, and she makes my libbin' for me a taking in washing—and, Goddlemity, ef I could be allowed by de law to have twenty I needn't do nothin' but drink gin and ride in the street-cars all the rest ov my born days."

AT a Tennessee banquet the other night an old man who had been invited and who knew nothing of wine sat drinking champagne. Looking up, with an expression of disgust, he said:

"Here, nigger, I don't want no more of this stuff."

"Whut's the matter with it, boss?"

"Got no body to it. I want somethin' that'll jolt me like I was hit with a maul."

"Waal, boss," turning and grinning at his companions, "you stick ter hit an' hit 'll stick ter you."

"Here, what is the stuff; sweetened rain water?"

"No, sah, hit's champagne."

"Got no whisky?"

"No, sah."

"Say this 'll stick to me?"

"Do hit, sho boss, ef yer stick to hit."

The next day after some one had kept the old fellow from committing suicide he found the negro waiter and said:

"Say, can't you get me some of that blame stuff to carry home? Thar's a fellow up in the mountains that I have shot at six times. I want to give it to him. Russle roun' an' git me a gallon or so, an' I will pizen the County Judge an' kill the fellow I shot at."—*Texas Siftings.*

GREAT PLACE FOR GAME.—"So you have just returned from the West, have you, Mr. D.?" said a man meeting an old crony on the street yesterday.

"Yes, sir, been all through the Territories."

"Game abundant there?"

"Game is very abundant, sir, very."

"What kind predominates?"

"Well, faro takes the lead, with poker a good second."

"Oh, good day."

"Good day."

DECAY OF THE BONES.—This is a terrible disease; the shrinking and ultimate decay of the bones of the human system. It is usually, if not always, a result of insufficient or improper nourishment during childhood. It is a disease which, when it has once attacked the system, cannot be eradicated by any diet or medicine that may subsequently be taken. Unfamiliar as this disease is, it is so common in London and some other portions of England, that the frequent cases exposed at the clinics attract no special attention. It is almost unknown in America.



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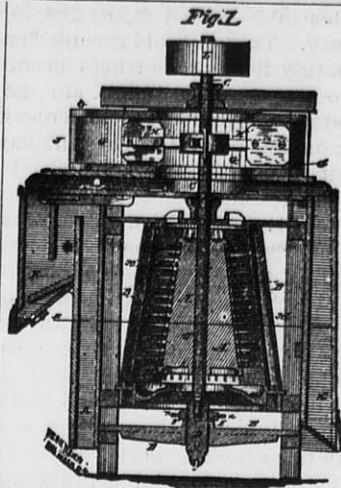
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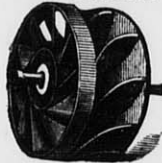
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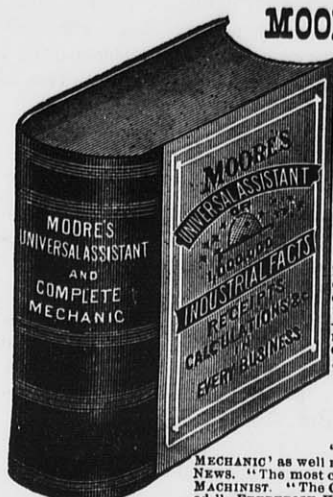
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From 2-10 to 2,000 horse power. Simplest, most durable, best gate for holding the water, fully equal in percentage of power to any wheel made, and price places it in reach of all. Send for illustrated catalogue. A. A. DeLOACH & BRO., Manufacturers, also of Milling Machinery, Atlanta, Ga. Mention this paper.



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Special excursion rates for parties. Guide Book entitled "Forests, Streams and Lakes of Northern Wisconsin and Michigan" forwarded to any address on application to the undersigned after March 1st, 1884.

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Corner East Water & Mason Streets.
MILWAUKEE, WIS.

NOTICE TO FLOUR MILL OWNERS

OWNERS AND PURCHASERS OF PURIFIERS, ATTENTION!

The suits of the Consolidated Middlings Purifier Company, now pending in the U. S. Supreme and Circuit Courts, have now reached such a stage as leaves no reasonable doubt of their early decision against the manufacturers and users of infringing Purifiers, and for this reason, in justice and fairness to all concerned, the company hereby gives notice that its license covering the use of infringing machines should be secured before the termination of the above mentioned suits, otherwise such Purifiers will be liable to the full amount of damages and cost decreed by the courts.

Following the late decision of the Canadian Courts, sustaining the Geo. T. Smith Purifier patents, Millers there pleaded ignorance of litigation affecting the title to Purifiers in abatement of the damages assessed against them; but having given this public notice, the company will not consider itself bound to accept such a plea here

Jackson, Mich., July 1st, 1884.

CONSOLIDATED MIDDINGS PURIFIER CO.

Send for Catalogue and Prices.

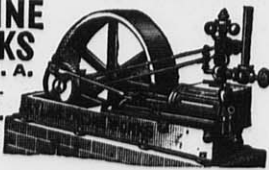
ATLAS ENGINE WORKS

INDIANAPOLIS, IND., U. S. A.

MANUFACTURERS OF

STEAM ENGINES & BOILERS.

Carry Engines and Boilers in Stock for immediate delivery.



Cockle Separator Manufacturing Company

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GENERAL MILL FURNISHERS

MANUFACTURERS OF

Kurth's Improved Patent

COCKLE SEPARATOR,

Built also in combination with Richardson's

Dustless

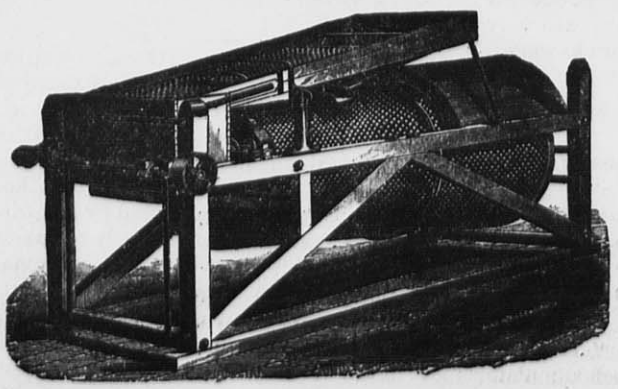
Wheat Separators.

Large Capacity combined with Good Quality of Work. Boardman's Patent

GRAIN CLEANERS,

Fully Guaranteed to give the Best of Satisfaction.

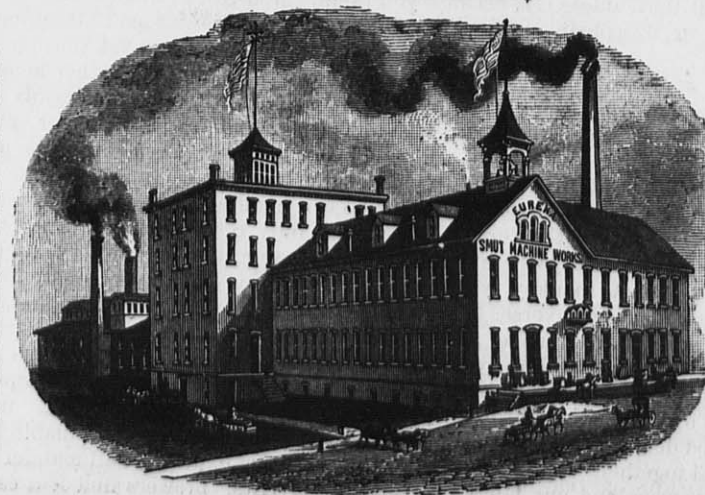
Pott's Patent Automatic Feeder for Roller Mills, Purifiers, etc., very simple and cheap. Perforated Sheet Material at low prices. Send for Circulars and Catalogues.



GENUINE DUFOUR and ANCHOR BRAND BOLTING CLOTHS

We furnish these cloths by the piece or made up to order in our acknowledged superior manner. Send for samples of cloth and sewing.

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EUREKA GRAIN CLEANING MACHINERY
More than 18,000 Machines in use in all parts of the World.

HOWES & EWELL,
Silver Creek, N. Y.

HOW TO WOO THE MAIDENS.

If you would woo an Indian maid,
Lay sentiment aside;
And wear a suit of a single belt,
Adorned with a 'possum hide.

—Churubusco People.

If you would woo a Yankee maid,
Just take her to the fair,
And treat her to ice cream and cake,
And give her taffy there.

—Gorham Mountaineer.

If you would woo a York State maid,
And have her come half way,
Give her the pants and all the cash,
And let her have her say.

—Watertown Observer.

If you would woo a Texas lass,
Always be prepared to run;
For should you chance that maid to sass,
She'll fall back on pa's shotgun.

—Galveston News.

If to a Cincinnati maid
You'd make your suit more dear,
Just take her to a hill-top house
And there set up the beer.

—Cin. Price Current.

And if a Hoosier girl you'd take,
The way is worse, we fear,
You'll put up taffy, cream and cake,
Cash, pants and lager beer.

—Grain.

Und if a Milwaukee girl you vount,
I'll just tell you vat you do,
Fill her up mit beer und krout
Und Bologna sausage too.

—United States Miller.

DIRECTIONS FOR PREPARING AND PUTTING IN WHEELS.

If rock foundation, blast it out the depth of standing tail water, and six inches wider than the outside of penstock, and from two feet above where the wheel sits, to five or six feet below the lower end of penstock; then lay foundation walls or set posts so that top of bottom frame of penstock will be four inches above the surface of tail-water at low-water mark. If ground bottom, dig it out as above directed, except in depth, which should be one foot greater; put down mud-sills and plank them over, and lay foundation walls or set posts on it as above directed.

Frame a good substantial penstock leaving a square opening in the bottom frame one inch larger than cylinder on wheel case. Spike pieces in the corners of square opening, to make it eight square; plank the bottom with three-inch stuff, and sides with two-inch. Make a round hole in the eight-square, one-eighth to one-fourth inch larger than the diameter of cylinder on wheel case. When the wheel is down in the penstock, turn it round so that the gate-shaft will come up in the place desired and cut gains in the edge of round hole for the bridge-tree. Care should always be taken when adjusting wheels and machinery to prevent any extra friction on the shafts, etc.; and particularly so with small wheels, as they run at a very high speed. Very little extra friction on shafts, occasioned by them being not in line, and having the stuffing-box and other boxes too tight, will cause one-fourth to one-half of the power of the wheel to be lost.

The forebay should be large enough to keep the water in the penstock at its full height, and prevent agitation of the water entering. A good rack should be put in the forebay to prevent trash from getting into the wheel.

As the eccentric wheel can only turn one-half around, there should be on the upper end of extended eccentric wheel shaft a pair of either spur or bevel gears, 5 or 6 to one, so that the hand-wheel will make 2 1/2 or 3 turns to open or close the gate.—Burnham's Wheel Book.

INDUSTRIES OF THE UNITED STATES.

Prof. J. K. Dodge, statistician of the agricultural department, has just issued a small book upon the industrial economy of the United States which presents some of the striking results of his investigations of statistics of the manufacturing and agricultural production of the country for twenty years. Within that period, owing to labor saving machinery, agriculture has more than doubled its production, with a smaller proportion of farm labor, and now threatens a glut in farm products unless this proportion shall be farther reduced. The question of an outlet to foreign markets is discussed, and facts are shown that the supplies of food products merely pays for the imported food and beverages and that the trade cannot be extended without a ruinous reduction in prices. The distribution of labor in occupations in this and other countries is shown, with reference to comparative thrift and progress. It is found invariably that the quality of distribution of industries retards development and that exclusively agricultural nations are always poor. The phenomenal progress of the central "West" is presented in deductive form, statistics showing that half the cultivated area of the United States lies in one-fourth of its territory, producing more than three-fourths of some of the principal crops. The fact is shown that the Ohio valley is the

most fully occupied body of land, Ohio having 94 per cent. of her surface in farms, Indiana 88, Illinois 88, Kentucky 84 and no other state as much. It is shown that already three-tenths of the manufactures of the United States are produced within the "Central West" in less than three-tenths of the area of the country, within half a century from its settlement.

The forty-sixth edition of "The Mechanic's and Engineer's Pocket Book" by Chas. H. Haswell, has just been issued by Messrs. Harper & Brothers of New York City. It has been completely revised and a large amount of new matter has been added. "Haswell" is so well known to mechanics and engineers generally that it does not need extended comment at our hands. It is sufficient to say that it is standard and accepted authority on all mechanical and engineering subjects. All interested in the trade should provide themselves with a copy at once.

A DOG'S BENEVOLENCE.

John Brooks, watchman at the lower mill, in Rochdale, has an intelligent Scotch terrier named Dick, that stays nightly with him and accompanies him on his "rounds" through the mill. Dick has a peculiar friend in a hound owned by a neighbor. Monday morning Mrs. Brooks gave Dick a beef bone with perhaps a half-pound of slightly tainted meat attached to it. After smelling it and turning it over with nose, Dick took the bone in his mouth, and ran with it to the garden, which is close by the house; there he left the bone and ran off toward the residence of the owner of the hound, and soon returned, the hound following. Dick led the way to the garden, and, showing his friend the sweet morsel, doubtless said in language dogs alone understand: "There is your breakfast, help yourself." And he did help himself, for he is one of the lean and hungry sort, nor did he leave the spot until he had fairly polished the bone, Dick meanwhile sitting quietly by looking on, apparently very well pleased to see his friend so heartily enjoy his breakfast.—Boston Herald.

FOR SALE A Splendid Water Power Flour and Saw Mill; doing a profitable business in Western Ohio. Will sell at half value. Address, Lock Box 17, Troy, Ohio.

NEWS.

Hicks & Buckert will erect saw and grist mills, Wickliffe, Ky.

F. L. Turner, of Henderson, Ky., will erect a hominy or starch mill.

The City Mills Company, of Knoxville, Tenn., intend soon to commence work on their new \$30,000 flour mill.

Alexander Mason, St. Louis, Mo., intends to put up a \$30,000 flour mill at Dallas, Tex.

The mills at Darlington, Man., have again started up and are running at full blast.

The Neepawa (Man.) Flour Mills are about to be completely remodeled with the latest improved machinery.

Burned, Aug. 31, Wood's roller mills, at Eufala, Ala. The loss is estimated at from \$50,000 to \$60,000. Incendiarism is supposed to be the cause.

Jonathan Bartley, the well-known millwright, of German Valley, Pa., is remodeling the mill of Messrs. Stephens & Co., Bartley Station, N. J., and putting in a line of the celebrated Allis rolls.

The Winnipeg Commercial is doing all in its power to encourage citizens to erect elevators and make that city a great grain center. We admire its zeal for the welfare of Winnipeggers.

August 16, the mills and elevator at Anoka, Minn., owned by W. D. Washburn & Co., were destroyed by fire, also the mill owned by Messrs. Weisel Bros. The loss to milling and other property was very large.

The White Star Mills at Cincinnati, O., owned by the estate of the late H. D. Huntington, will be sold at auction by the administrator Sept. 11. The property has been appraised at \$47,000.

The extensive flouring mill and wheat elevator situated at Waterloo, Monroe county, Ill., owned by Kepler Bros., of St. Louis, burned Aug. 31, together with 30,000 to 40,000 bushels of wheat and 600 barrels of flour. The loss is about \$200,000; insured for \$100,000, largely in Eastern and foreign offices.

Cummer engines have just been started in the following places: Amoskeag Cotton Mills, Manchester, N. H.; sawmill of A. L. Johnson & Co., Muncie, Ind.; Linseed oil mills of I. P. Evans & Co., Indianapolis, Ind.; and in the flouring mills of C. B. & D. H. Cowan, Canal Winchester, O.

Mr. Simon Gebhart, of Dayton, Ohio, one of the largest millers in Ohio, has just ordered two pairs of 9x24 Bismarck rolls of The Case Mfg. Co., of Columbus, Ohio. Mr. Gebhart has about all the different makes of rolls made in his mill, and when he came to order new rolls, the Case automatic feed captured his order.

At the forthcoming exposition at Louisville, Ky., there will be a fine display of modern mill machinery, roller mills, purifiers, centrifugals, etc., in various sizes, from the factory of The Case Manufacturing Co., of Columbus, Ohio. The display will be in charge of N. T. Pyne, the well-known mill builder and furnisher, of Louisville, who is the agent and representative of The Case Co. for the Southwest.

The Case Manufacturing Co., Columbus, Ohio, report their foreign trade rapidly on the increase. They have recently received orders from Europe for

93 sets of rolls, besides a number of purifiers. On the 11th inst., they received orders for four complete roller mills, being 52 sets of rolls, 10 purifiers and 8 centrifugals. This is good enough for one day. On the following day they received an order from Europe for 45 sets of rolls. Keep up the motion!

The 250 horse-power Cummer engine just started in the Amoskeag Cotton Mills, Manchester, N. H., has attracted the admiration of all in that vicinity, and is looked upon with a great deal of pride by the owners and manufacturers. During the past week the Cummer Co. have made the following shipments: a 52 horse-power engine with complete outfit to the Goshen Elevator Co., Goshen, Ind., one of 170 horse-power to Louis Mitches, Wausau, Wis.; a 130 horse-power to C. B. & D. H. Cowan, Canal Winchester, O.; one of 55 horse-power with complete outfit to A. Dietry & Son, Moorheadville, Pa., and a 250 horse-power engine to I. P. Evans & Co., Indianapolis, Ind.

The Cummer Engine Co., have just started one of their ice and refrigerating machines in the plant of the Rob't Portner Brewing Co., Alexandria, Va., and another in the brewery of Albert Zeigle & Co., Buffalo, N. Y.; This is the second Ballantine ice and refrigerating machine furnished the Zeigle Co., and the makers consider it a strong endorsement of their machine. The Cummer Co. have just completed the erection of two of their refrigerating machines in the plant of the Co-operative Brewing Co., Buffalo, N. Y., and expect to ship another ice machine and four more engines this coming week. They report a very flattering outlook for their business, and that they are running to their full capacity on ordered work.

The Cummer Engine Co. have sent a 130 horse-power engine to the Louisville exposition to drive several of the electric light dynamos on exhibition. They will also furnish one of their Ballantine ice and refrigerating machine, and a 130 horse-power engine for the St. Louis exposition. The engine will drive an important line of shafting, and the refrigerating machine will be used to keep a comfortable temperature in the music hall, and for refrigerating any perishable articles that may be on exhibition.

The following orders have recently been lodged with the Cummer Co.: One large refrigerating machine with purifier for the Crescent Brewing Co., of Aurora, Ill., to displace a machine of another make; three refrigerating machines with apparatus complete for the large brewery of Hensler & Sons, Newark, N. J.; a 170 horse power engine with boilers and outfit complete for W. H. Cherry and Co., Mountain Mills, Ala., and two engines, one 250 horse-power and the other 105 horse-power, for the Brooks & Ross Lumber Co., Schofield, Wis.; The following are among the recent shipments of this Co.: A 55 horse-power engine with outfit complete for the Fort Wayne Jenney Electric Light Co., for their new plant at Goshen, Ind., and a 55 horse power outfit complete for the flour mills of A. Dietry & Son, Moorheadville, Pa. In addition to the above they expect to ship two more good sized engines and another refrigerating machine in the early part of next week, and report orders coming in freely.

E. Corbet, Sandusky, Ohio, has taken the contract of W. H. Tenny, Georgetown, D. C., for a complete gradual reduction mill. The machinery will be furnished by the Case Manufacturing Co., Columbus, Ohio. Ten pairs of "Case" rolls, in connection with their purifiers, centrifugals, scalpers, etc., will be used. Mr. Corbet will plan and superintend the work, and will, no doubt, give Mr. Tenny a good mill.

The Case Manufacturing Co., Columbus, Ohio, will have a full line of their machines, including the "Bismarck" four roll mill, with patent automatic feed, the "Case" double and single purifiers, the "Case" improved centrifugal reel, the "Little Giant" first break machine and the "Case" three roll first and second break machines, on exhibition at the St. Louis Exposition, in charge of W. H. Freeman, of St. Louis, Mo. They will have a fine display of splendid constructed machinery, and millers visiting the exposition will do well to give them their intelligent inspection.

Messrs. Edw. P. Allis & Co., of the Reliance Works, Milwaukee, Wis., have received the following orders for their celebrated Gray's noiseless belt roller mills during the past month from the trade: Through Messrs. Wolf & Hamaker, of Allentown, Pa.: Three double machines for W. Hummel, Seigfried's Bridge, Pa.; five complete double machines for J. B. Hurst & Bro., Newville, Pa.; six complete double machines for the Patterson mill at Holland Station, Pa.; four complete double machines for Messrs. Fritch Bros., Norristown, Pa.; four complete double machines for a mill they are building at Betchelsville, Pa.; five complete double machines for Adam Stout, Shoemakersville, Pa.; a No. 2 four break reduction machine and two double roller mills for Richard Stephens & Co., Bartley Station, Pa. Through The Richmond City Mill Works, Richmond, Ind.: Four double complete machines for W. B. Ralston, New Carlisle, Ohio; five complete double machines for Messrs. Hamilton Bros. & Co., East Liberty, Ohio; from the Great Western Mfg. Co., Leavenworth, Kas., sixteen complete double machines. Through Messrs. Willford & Northway, Minneapolis: Four complete double machines for Messrs. Sorlien Bros., Granite Falls, Minn.; one double machine for M. G. Grogan, Ramsey Station, Minn. From Messrs. Haggerty, Hunter & Co., Peoria, Ill.: Five double machines, all complete. From L. V. Rathbun, Rochester, N. Y.: Three complete double machines. From Messrs. Richards & Butler, Indianapolis, Ind.: Four complete double machines. From mill owners—Chas. F. Nieson, Sedalia, Mo.: Three complete double machines; Dewey & Stewart, Owosso, Mich.: Five complete double machines; Messrs. Jones & Stacy, Algona, Iowa: A No. 2 four break reduction machine and a Gray's noiseless belt roller mill; Messrs. Black Bros., Beatrice, Neb.: One double machine; Messrs. J. Major & Sons, Sarnia, Ont.: A four break reduction machine and double roller mill, together with the necessary special machinery and iron work to fit them in good shape on the roller system; Messrs. Dunnewold & Lubbers, Cedar Grove, Wis.: One double and one single machine, all complete; J. T. Elder, Mason City, Iowa: A No. 2, four break reduction machine and two double roller mills, and all necessary machinery to fit his mill up in good shape; Messrs. J. C. Grinter & Co., Perryville, Kas.: A No. 2, four break reduction machine and two complete double roller mills, and special machinery and iron work necessary for a complete roller mill; R. Whitelaw, Woodstock, Ont.: Three double roller mills; The O. A. Gambrell Mfg. Co., Baltimore, Md.: Two pairs Allis' rolls; Orth & Hainke, Erfurt, Wis.: One complete double roller mill; Williams Bros., Kent, Ohio: Two complete double roller mills; Messrs. Bowman & Kellogg,

of Atchison, Kans., after a thorough investigation of all the different systems, placed their order with Messrs. Allis & Co. for the complete outfit for their mill, which is to be rebuilt on the roller system. The order embraces twenty-two pair of the celebrated Allis rolls, in Gray's noiseless belt frames. The mill will have a capacity of 250 to 300 bbls., when completed; R. Stelling, Port Washington, Wis.: A double porcelain roller mill; W. Rhodes, Fertill, Iowa: Three complete double roller mills; P. Berger, Fairview, Ill.: A double roller mill; P. Duane, Jr., Oostburg, Wis.: A complete line of Gray's noiseless belt roller mills, and other special machinery, to remodel his mill to the complete roller system; Higginsville Milling Co., Higginsville, Mo.: A double roller mill; Bush & Southwell, Willson, N. Y.: Three complete double machines; Cleveland Milling Co., Cleveland, Ohio: Two more double machines, all complete; The Dresden Milling Co., Dresden, Ohio: Nine double machines; Jno. Ream, Hagerstown, Md.: One double machine; Louis Munch, Chrystal Lake, Ill.: Four double machines, all complete; Jewell Milling Co., Brooklyn, N. Y.: Four double machines, all complete; Williams & Co., Libertyville, Mo.: One double machine; The Hudnuts, Terre Haute, Ind.: One double machine; Messrs. Frye & Co., Lamar, Mo.: Eight pairs Allis rolls, in Gray's noiseless belt frames, iron work, belting, etc., for complete roller mill; Sinker, Davis & Co., Indianapolis, Ind.: One double machine; Albert Wehausen, Two Rivers, Wis.: Four double machines, all complete; Siddle, Fletcher, Holmes & Co., Minneapolis, Minn.: Three double machines; H. F. Neikirk & Son, Keedysville, Md.: One double machine; J. J. Manker & Co., Red Oak, Iowa: Four double machines and other machinery, to refit their mill; J. W. Pickle, Cambridge, Neb.: A No. 2 four break reduction machine, two double roller mills, complete outfit for remodeling his mill to the roller system; Standard, Underhill & Co., Utica, Neb.: A complete line of rolls and other machinery, to make their mill a roller mill; Messrs. Walbert & Mentzer, Columbus, Kas.: Four double machines and necessary machinery to place them in the path to riches, viz: a roller mill; Stroup Bros., Oakfield, Wis.: Four double roller mills, all complete, also reels, purifiers, iron work, etc., to put the mill on the roller system; J. P. Parker, Ripley, O.: A double roller mill.

The Case Manufacturing Company, Columbus, Ohio, have received the following orders during the past month: From Shanower & Thomas, Plymouth Ind., for a complete outfit of rolls, purifiers, scalping reels, bolting chests, etc., for a full roller mill on the Case system; from Richter & Co., Williamstown, W. Va., for one patent automatic feed for their Odell rolls; from L. D. Lenord, Empire, Wis., for a full line of breaks, rolls, purifiers, centrifugal reels, etc., for a gradual reduction mill on the Case system; from J. B. Widner, Keyser, Va., for two pair rolls, with patent automatic feed; from R. M. Sims & Co., Frankfort, Ind., for two automatic feeds for their "Allis rolls;" from Henry Grape, Hamburg, Iowa, for eight sets of rolls, with patent automatic feed; from James Comming, Lyon, Ontario, Canada, for one Little Giant break machine; from A. P. Dike, Skidmore, Mo., for four sets of rolls, with automatic feed, and other machinery; from Laggate & Everden, Centerville, Ind., for one No. 2 single purifier; from J. C. Beery, Edon, Va., for a complete outfit of breaks, rolls, purifiers, centrifugals, etc., for a full gradual reduction mill on the Case system, twelve pairs of rolls, with automatic feed, will be used; from D. M. Willis, Ridgeway, Ill., for a full line of breaks, rolls, purifiers, centrifugals, scalpers, etc., fourteen pairs of rolls will be used; from J. J. Brooks, Conshohocken, Pa., for one pair rolls, with patent automatic feed; from L. H. Seidell, Allentown, Ohio, for two pairs rolls, with patent automatic feed; from Mattes & Kattesser, Odebolt, Iowa, for a full line of machinery for a complete gradual reduction mill on the Case system, twelve pairs of rolls, with patent automatic feed, will be used in connection with their purifiers, scalping reels, centrifugals, bolting chests, etc.; from The Great Western Manufacturing Company, Leavenworth, Kas., for ten pairs of rolls, with patent automatic feed; from Burroughs & Pierson, Flint, Mich., for one No. 2 single purifier; from F. R. Fletcher, Decorah, Iowa, for two pairs of rolls, with patent automatic feed, to be shipped to J. T. Graham, Rockford, Iowa; from the Edgerton Mill Co., Edgerton, Kan., for one pair rolls, with patent automatic feed; from O. L. Thompson, Thompsonville, Kans., for a complete outfit of breaks, rolls, purifiers, scalping reels, bolting chests, etc., for a full gradual reduction mill on the Case system—he mill, when complete, will have a daily capacity of from 100 to 125 barrels; from Wm. E. Catlin & Co., Chicago, Ill., for one pair of rolls for G. G. Bonus, Sheldon, Iowa; from McClain & Hunt, Belle Vernon, Pa., for breaks, rolls, purifiers, centrifugals, scalpers, bolting reels, etc.; from Thomas Sharp & Co., Salem, Ohio, for two pairs of rolls, with automatic feed; from Chamberlain & Post, Bull City, Kans., for breaks, scalpers, purifiers, etc.; from J. S. Allender, Keyser, W. Va., for a complete outfit for a full gradual reduction mill on the Case system, ten pairs of rolls, with automatic feed, in connection with their scalpers, purifiers, centrifugals, bolting chests, etc., will be used; from Wiet & Wiley, Naponee, Wis., for one "Little Giant" break machine and scalper combined, making two separations, and two pairs of rolls, with patent automatic feed; from Balkay & Murray, Fredricktown, Mo., for a line of breaks, rolls, purifiers, centrifugals, scalpers, etc., for a gradual reduction mill on the Case system; from Geo. S. Rickard, North Columbus, Ohio, for four pairs of rolls, with patent automatic feed, and other machinery; from Hammond & Benedict, La Grand, Iowa, for two patent automatic feeds for their "Downton" rolls; from L. N. Crill & Co., Richland, Dak., for breaks, rolls, scalpers, centrifugals, etc.; from J. R. Barket & Co., Terre Haute, Ind., for one three roll break machine, to be shipped to J. S. Reid & Son, Sullivan, Ind.; from Thos. Shank & Co., Salem, Ohio, for two pairs of rolls, with automatic feeds, to be shipped to Curry & Topping, Pomona, Kans.; from E. W. Gillis, Morenci, Mich., for one "Little Giant" break machine and scalper combined, making three separations; from Richter & Co., Williamstown, W. Va., for two pairs of rolls, with patent automatic feed, and other machinery; from J. B. Ficklin, Fredericksburg, Va., for a "Case" automatic feed for his porcelain rolls; from Necedah Flour Mills Co., Necedah, Wis., for one No. 1 double purifier; from Barnard & Leas, Moline, Ill., for one 9x12 reducer and scalper, making three separations, to be shipped to Kuhn & Roush, Manning, Iowa; from W. P. Hambaugh, Ringgold, Tenn., two pairs of rolls; from Geo. Leggate, Centerville, Ill., for two pairs of rolls, with patent automatic feed.

ITEMS OF INTEREST.

A SKILLFUL ENGINEERING FEAT.—The frame structure of the Schuylkill Valley Railroad Company at Franklin avenue, this borough, was removed on Sunday and an iron bridge put in its place. All the work was performed in seventy-five minutes. The iron bridge was built upon a temporary trestling north of the frame structure, and as soon as the old bridge was removed the new slid gracefully down greased tracks to the position which it now occupies. This feat in engineering was witnessed by a large gathering of persons. The structure is thirty feet long and weighs about twenty tons.—*Norristown Register.*

A REMARKABLE CHIMNEY.—The big brick chimney stack of the New York Steam-Heating Company is a matter of comment with every one arriving in that city by water, for it can be seen for miles. This chimney was a creature of circumstances, it being necessary to place within a very limited area a very large boiler capacity, viz., 19,000 horsepower. This was done by making four stories of boilers; the chimney was therefore necessarily located with reference to these boilers, and the plan of the chimney was determined by the shape of the lot. The beach of the Hudson River was at some time at this locality, and the foundation of the chimney was placed in fine, clear beach sand, with some pockets of coarser sand and a little stone. The foundation is one foot below high water. The chimney is 27 feet 10 inches in the clear inside, and is 8 feet 4 inches wide. The height is 220 feet above high water; 221 feet above the foundation; 217 feet above the basement floor; 201 feet above the grates of the lower tier of boilers, and 141 feet above the grates of the upper tier of boilers. The thickness of the walls on the interior of the building runs from 5 feet to 20 inches, on the other side from 3 feet to 20 inches. The gases for each chimney are taken from 32 boilers of 250 horse-power each. The fuel used is the finer grades of anthracites, pea and wheat, and the consumption averages about 150 tons per day. They did run on soft coal for a few days, but the smoke was complained of.

A NEW question is bothering local politicians in Texas. Many farmers and planters are accustomed to mortgage their crops as soon as the seed is put into the ground. This year the freshets swept away the growing crops in many localities, and being late in the season, seed of another kind was sown. The question is, does the mortgage hold good on the crop from the second sowing? Local party lines have been drawn on this issue, and it promises to be as important in deciding the fate of local aspirants for political fame as the hog question in some Western towns. In many towns the question whether hogs should be allowed to roam at large in the streets is greater than the tariff question.

THERE is a machinist in Sing Sing prison who attempted to make use of his artisan skill to escape from that stronghold of malefactors. While working in the machine shop of the prison he secretly designed and constructed an apparatus resembling a diver's helmet, which he intended to strap on his head, connecting with its top a tin air pipe of suitable length, then walk into the dock, and by traversing its muddy bottom wade to freedom. The tin pipe was to reach clear of the water, and by that means was to supply the inventor with air.

ABOUT ten years ago a powerful steam stone-breaker was exhibited at Paris, the foundation being of ordinary masonry. So much was the surrounding ground shaken that an engraver on glass, carrying on business in the neighborhood, suffered great inconvenience, being absolutely unable to pursue his vocation. He applied for a temporary injunction, restraining the proprietor of the stone-breaker from using the machine. The foundation of ordinary masonry was then removed, and one of asphalt substituted, when, upon testing the machine, it was found that no more tremor existed, and peace was restored.—*The Industrial Review.*

OUR VISITORS.

During the month of August we have been favored with calls from the following gentlemen:

D. G. Tepper, of *The Millers' Journal*, New York.

Daniel E. Dowling, Metropolitan Mills, N. Y. City.

Louis Gathmann, Esq., of The Garden City Mill Furnishing Co., Chicago, Ill.

Wm. Trudgeon, of The Richmond Mfg. Co., of Lockport, N. Y.

W. W. Beardsley, of The Case Mfg. Co., Columbus, Ohio.

F. E. Klopffleisch, Milwaukee.

John P. Brining, of The Geo. T. Smith Middlings Purifier Co., Jackson, Mich.

A. L. Rice, Aurora, Ill.

J. C. Arthur, Cawker City, Kansas.

SPECIAL BUSINESS NOTICES

ABOUT 'THE CURTIS' HELFRICH GRAIN CLEANER.

The following letter has just been received by the manufacturers, and speaks for itself.

Office of Chas. A. Pillsbury & Co.,
June 26.

Curtis & Helfrich, City.

Gentlemen:—“We are using a number of your new Wheat Cleaners, and are well satisfied with them. We consider it a superior scouring machine, especially for cleaning and putting in milling condition, smutty wheat which requires very thorough scouring in order to mill it at all.

Very truly yours,
CHAS. A. PILLSBURY.

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N. P. BOWSHER.
South Bend, Ind.

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Don't order your Cloth until you have conferred with us; it will pay you both in point of quality and price. We are prepared with special facilities for this work. Write us before you order.

Address, CASE MANUF'G CO.
OFFICE AND FACTORY:
Fifth St., North of Waughten,
COLUMBUS, OHIO.

FOR SALE.

A horizontal boiler and engine in first-class condition. Boiler 15 horse power. Engine 10 horse power. Can be seen running at the RIVERSIDE PRINTING OFFICE, 116 and 118 Grand Avenue, Milwaukee. Also Feed Water Heater and line of Shafting.

WANTED Immediately, a permanent situation in some Burr or Roller Mill. Have worked second in Burr Mill. Am single, and can give reference. Address JOHN L. MILLER, Allen Co., Lima, Ohio.

BIRGE & SMITH, PRACTICAL MILLWRIGHTS

PLANS, SPECIFICATIONS & ESTIMATES
MADE FOR ALL KINDS OF

MILLWORK, MACHINERY, ETC.

Flour, Sawmill, Tanners' and Brewers' Machinery, and General Mill Furnishers,

Corner of East Water and Knapp Sts.,

MILWAUKEE, - - - WISCONSIN.

[Please mention this paper when you write to us.]

ELKADER FLOURING MILLS, Elkader Iowa, March 12, 1884.
COCKLE SEPARATOR MFG. CO., Milwaukee, Wis.
Gentlemen:—Your favor of the 5th at hand and noted. We bought one No. 2 machine of you, we think in 1877, it has always done its work satisfactorily and continues to do so. We have not laid out one cent for repairs. If you make all your machines to last as well as ours, you will grow poor in the business. Yours truly,
W. SCHMIDT & BRO.

READ TESTIMONIAL.

Will Grow Poor in the Business.

The Improved KURTH PATENT
COCKLE SEPARATOR
A PERFECT & ECONOMICAL SEPARATOR



3000 IN OPERATION

ALSO BUILT WITH
RICHARDSON'S DUSTLESS OAT SEPARATOR
Beardslee's Patent Grain Cleaner.
DIFFERENT SIZES & STYLES. ADDRESS THE
COCKLE SEPARATOR MFG. CO.
MILWAUKEE WIS.

GANZ & CO.,

Budapest, Austria-Hungary.

We are the first introducers of the Chilled Iron Rollers for milling purposes, and hold Letters Patent for the United States of America. For full particulars address as above.
[Mention this paper when you write to us.]



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Milwaukee & Northern Railroad.

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—THE NEW ROUTE TO—

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The new line to Menominee is now completed, and opens to the public the shortest and best route to all points on the Michigan Peninsula.

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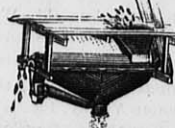
AT PLYMOUTH with the Sheboygan and Fond du Lac Division Chicago & North-Western R'y for Sheboygan and Fond du Lac.
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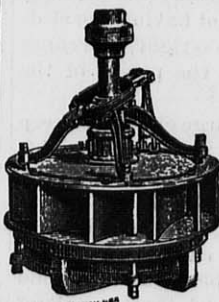
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Improved + Walsh + Double + Turbine




This wheel has a perfect fitting cylinder gate and draft tube combined, and allows no water to escape when closed.

POWER GUARANTEED

equal to any wheel on the market using equal amount of water. Address for particulars,

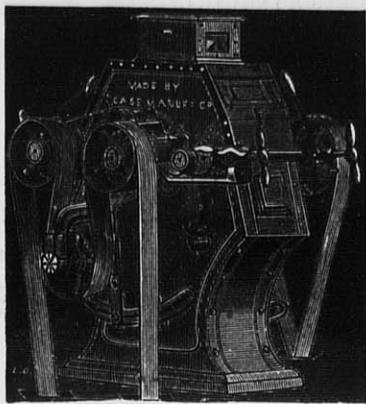
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Phoenix Iron Works,
Sheboygan Falls, Wis.



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The GEO. T. SMITH MIDDINGS PURIFIER CO.,
JACKSON, MICHIGAN, U. S. A.

We are continually in receipt of such letters as this one from M. Simpson. We have never seen Mr. S. or asked him to write us a word for publication. We can do as well for any other miller. We are having more orders than ever before for our well known Case Purifier, and so of our Centrifugal Reels and "Bismarck" Rolls, all of which, with our other specialties, give us great advantage in equipping Roller Mills. Our machines are all adapted to each other. The miller gets the benefit of this in price and conveniences. Those who attend the approaching St. Louis and Louisville Expositions will see a line of our machinery.



UNDER THE CASE GRADUAL REDUCTION SYSTEM.

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This is the little machine that is producing such splendid results in so many small mills.

Made in Sizes all the way up to 9x30 inch.

"Well, the mill runs splendid and we are making flour that is a little ahead of any brand of Roller flour in our market, and we have several of them, so our customers and dealers ALL say. We tried to be equal to the best, but to be better was better than we expected.

It gives the Case Rolls a good send-off. We do the same work with three-quarter of the power that we took with stones. All who come to examine the Rolls and work leave with minds made up that the Case Rolls are THE Rolls. I enclose N. Y. draft \$.....

Yours truly,

A. SIMPSON.

Owatonna, Minn., Aug. 12, '84."

If you want machinery write us. If only advice and information, write us all the same.

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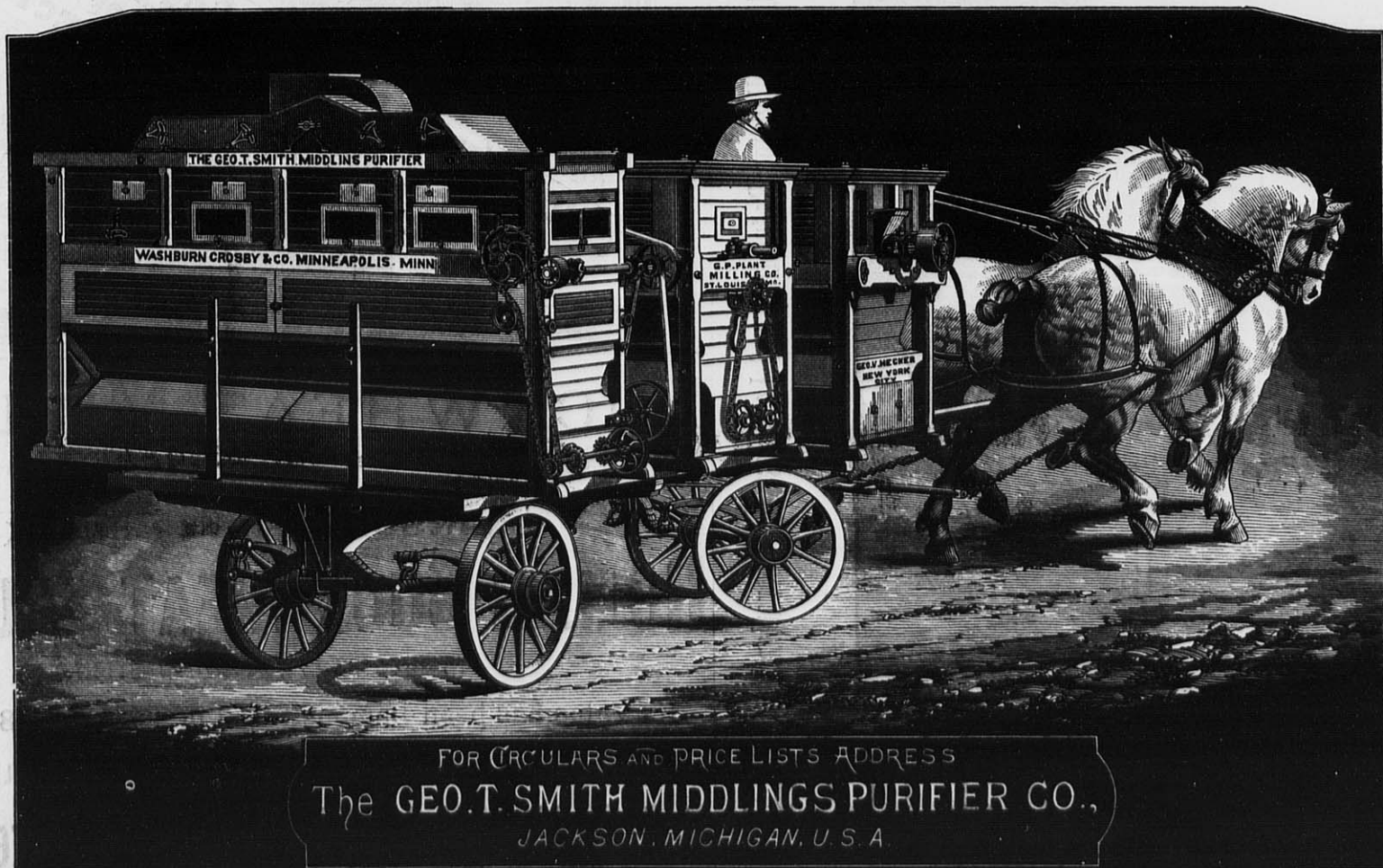
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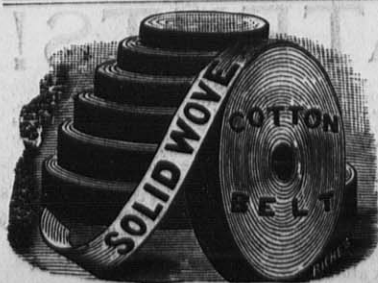
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AND RE-CORRUGATED TO ORDER,

Also, Porcelain Rolls Redressed.

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This Wheel is considered one of the most correct that has been devised, gives the highest results, and, with late improvements, is now the best, most practical, and efficient Partial Gate Wheel in existence.

For Economy, Strength, Simplicity, Durability, and Tightness of Gate, it has no equal.

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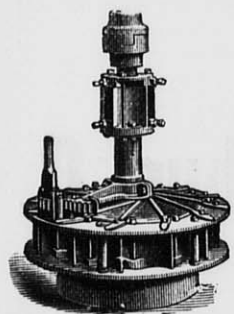
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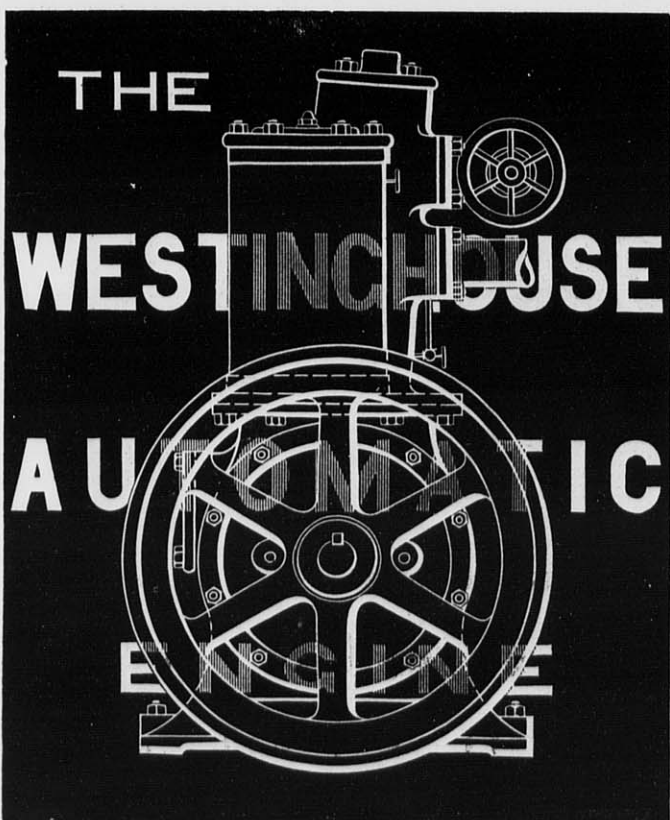
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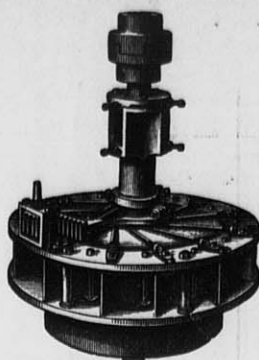
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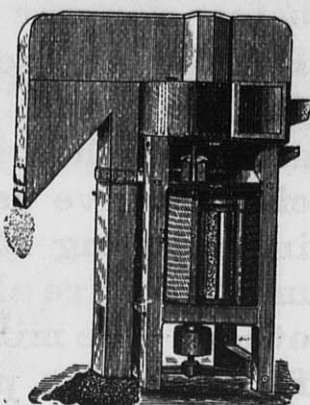
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Thousands of these Machines are in successful operation, both in this country and in Europe. Correspondence solicited.

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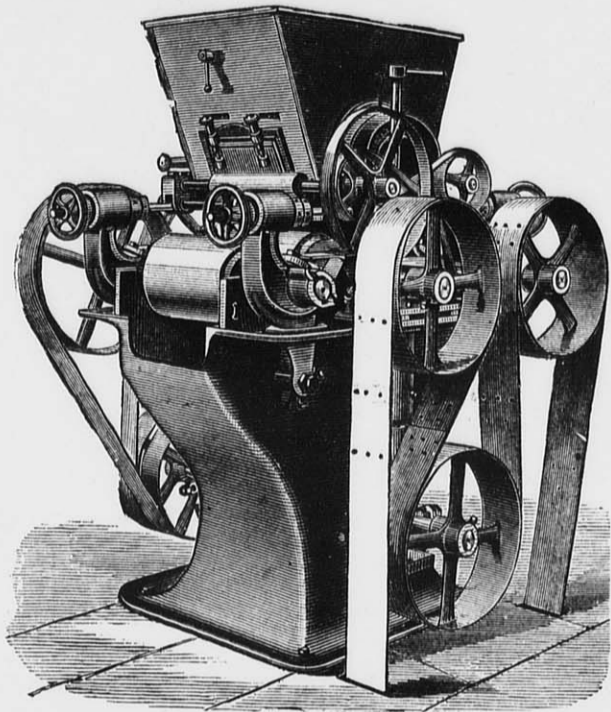
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Wegmann's Patent Porcelain Rolls.

Unexcelled for reducing Middlings to Flour.

Far ahead of Smooth Iron or Scratch Rolls and entirely superseding the use of Mill Stones for this purpose.



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Yours Truly,

KIDDER BROS.

Kings County Flour Mills, Brooklyn, N. Y., Aug. 15, 1882.

MESSRS. E. P. ALLIS & Co.

Gentlemen:—You ask how I like the Porcelain Rolls as compared with Mill Stones. I have been using the original Porcelain Gear Machines for five years and became convinced a long time ago that Mill Stones could not produce as satisfactory results.

I am now operating your Improved Machine of increased size with nice adjustments, working without noise with Gray's Patent Belt Drive. The Flour it produces is beautifully grainy and strong, and its capacity two or three times more than the old Gear Machine.

It runs splendidly, gives no trouble, consumes less power than Mill Stones, dispenses with costly stone dressing and for reducing middlings and soft branny residuums and tailings is unequalled by any Machine, iron or stone, at least this is my opinion after five years of practical experience.

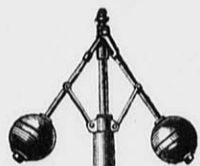
Yours truly,

JOHN HARVEY.

Head Miller Kings Co. Mills, Brooklyn, N. Y.

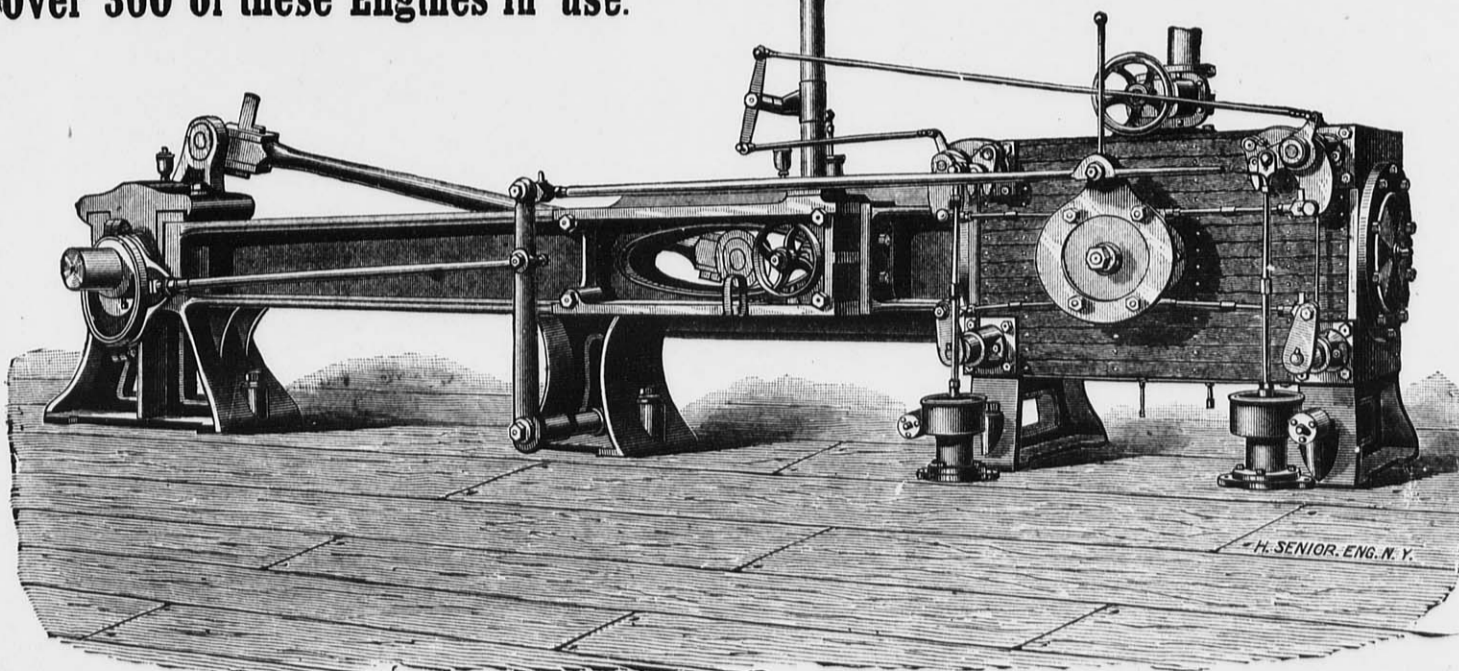
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LaGrange Mill Co.....	Red Wing, Minn.	Green & Gold.....	Faribault, Minn.	Wells & Nieman.....	Schuyler, Neb.
New Era Mills.....	Milwaukee, Wis.	Meriden Mill Co.....	Meriden, Minn.	Grundy Centre Milling Co.....	Grundy Centre, Iowa
Daisy Flour Mills.....	Milwaukee, Wis.	Townshend & Proctor.....	Stillwater, Minn.	B. D. Sprague.....	Rushford, Minn.
Winona Mill Co.....	Winona, Minn.	Soo & Brinkman.....	Great Bend, Kansas.	The Eisenmeyer Co.....	Little Rock, Ark.
W. D. Washburn & Co.....	Anoka, Minn.	Frank Clark.....	Hamilton, Mo.	A. W. Ogilvie & Co.....	Montreal, Canada
Archibald, Schurmeier & Smith.....	St. Paul, Minn.	N. J. Sisson.....	Mankato, Minn.	Geo. Urban & Son.....	Buffalo, N. Y.
White, Listman & Co.....	La Crosse, Wis.	Jas. Campbell.....	Mannamah, Minn.	A. A. Taylor.....	Toledo, O.
Milwaukee Milling Co.....	Milwaukee, Wis.	C. J. Coggin.....	Wauconda, Ill.	Pindell Bros. Co.....	Hannibal, Mo.
Stuart & Douglas.....	Chicago, Ill.	J. J. Wilson.....	Algona, Iowa.	Kehlor Milling Co.....	East St. Louis, Ill.
Stillwater Milling Co.....	Stillwater, Minn.	Ames & Hurlbut.....	Hutchinson, Minn.	Walsh, DeRoo & Co.....	Holland, Mich.
Otto Troost.....	Winona, Minn.	Lincoln Bros.....	Olivia, Minn.	Goodlander Mill and Elevator Co.....	Fort Scott, Kan.
E. T. Archibald & Co.....	Dundas, Minn.	Northey Bros.....	Columbus Junction, Iowa.	W. Seyk & Co.....	Kewaunee, Wis.
C. McCreary & Co.....	Sacramento, Cal.	Bryant Mill Co.....	Bryant, Iowa.	Topeka Mill and Elevator Co.....	Topeka, Kan.
Gardner & Mairs.....	Hastings, Minn.	David Kepford.....	Grundy Centre, Iowa.	Strong Bros.....	Graceville, Minn.
J. Schuette & Bro.....	Manitowoc, Wis.	Waterbury & Wagner.....	Janesville, Minn.	C. A. Roberts.....	Fargo, D. T.
Minnetonka Mill Co.....	Minnetonka, Minn.	W. A. Weatherhead.....	South Lyons, Mich.	Coman & Morrison.....	Fox Lake, Wis.
J. D. Green & Co.....	Faribault, Minn.	Geo. Bierline.....	Waconia, Minn.	J. G. Schaapp.....	Grand Island, Mich.
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Beynon & Maes.....	Owatonna, Minn.	Winona Mill Co. compounding their present 24x60 Winona M.			
Eagle Mill Co.....	New Ulm, Minn.	Forest Mill Co.....	Forest, Minn.		

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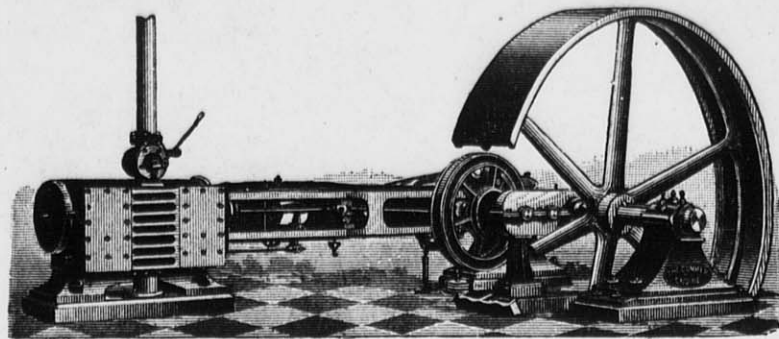
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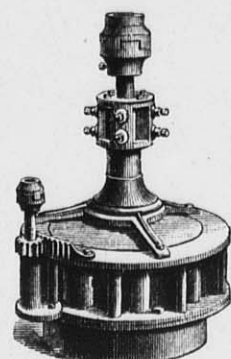
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All Kinds of Mill Supplies in the United States.

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MESSRS. NORDYKE & MARMON CO., INDIANAPOLIS, IND.

Gentlemen:—In regard to the workings of our new mill erected by you, will say it is working fully up to and beyond our expectations. Our average work is fully 35 per cent. over your guarantee. Since starting our mill last July we have had no complaint of our flour from any market where sold. It gives universal satisfaction, and we have it scattered on the trade from Chicago to Galveston, Texas. Our yields are all that are attainable. We have tested it on both Spring and Winter wheats with satisfactory results on both varieties. Since the mill was turned over to us we have not changed a spout or a foot of cloth, nor have we found it required to make any changes. We have run as long as six days and nights without shutting steam off the engine, not having a "choke" or a belt to come off. The mill is entirely satisfactory to us, and for a fine job of workmanship, milling skill and perfection of system, we doubt if it is surpassed in the United States to-day. It is certainly a grand monument to the ability and skill of Col. C. A. Winn, your Milling Engineer and Designer. You may point to this mill with pride and say to competitors, "You may try to equal, but you will never beat it." Wishing you the success that honorable dealing deserves, I am,
Yours, etc.,

OFFICE OF DAVIS & FAUCETT MILLING CO.,
ST. JOSEPH, MO., Nov. 28th, 1883.

R. H. FAUCETT, Prest.

500 BARREL MILL IN ILLINOIS.

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Gents:—We started up our mill in June last year, and it gives us pleasure to say that your Roller Mills are doing splendid work and give us no trouble. Your milling program required no changes, and concerning yields, we get all the flour from the offals, and we sell our best grades in the principal markets of the United States at the highest prices offered for any flour. All the machinery made by you is first-class, and we would not know where to purchase as good.
Yours respectfully,

OFFICE OF DAVID SUPPGER & CO.,
HIGHLAND, ILL., Jan. 10, 1884.

DAVID SUPPGER & CO.

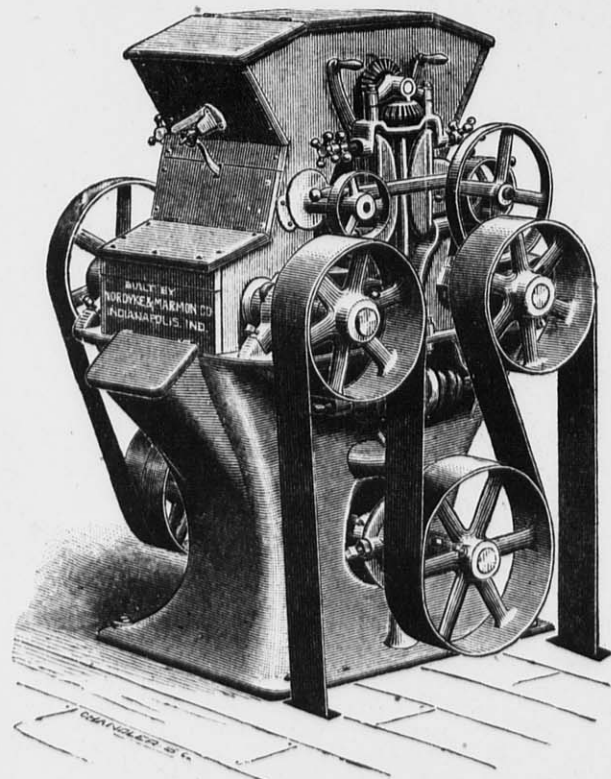
125 BARREL MILL IN INDIANA.

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Gentlemen:—The 125 barrel All Roller Mill you built us has been running all summer, and does its work perfectly. Before contracting with you for this machinery we visited many Roller Mills throughout the West and Northwest, built by the different leading Mill-furnishers, and from all we could see, those built by you seemed to be giving the best satisfaction, and this is why we bought our machinery of you. Our mill comes fully up to your guarantees, and the capacity runs over your guarantee. The bran and offal is practically free from flour, and our patent and bakers' flour compares favorably with any we have seen elsewhere. I don't think anyone can beat us. Your Roller Machines are the best we have seen; they run cool, and the interior does not sweat, and cause doughing of the flour. Judging from our success, we would recommend other millers to place their orders with you.
Yours truly,

LAPEL, MADISON COUNTY, IND., Jan. 10, 1884.

J. T. FORD.



Letters on file in our office from a large number of small Roller Millers giving as favorable reports as above. A portion will be published as occasion demands.

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